

BALLISTIC MISSILE DEFENSE

FY95 FUNDING & LANGUAGE TRACK

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October 1994

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FY 95 AUTHORIZATION FUNDING TRACK

TY \$ In Millions

Authorization	FY 94 Auth	FY 95 Budget Request	HASC Sub Committee	HASC Full Committee	House Floor	SASC Sub Committee	SASC Full Committee	Senate Floor	Authorization Conference
Date Of Event		7 FEB 94	5 MAY 94	10 MAY 94	9 JUN 94	9 JUN 94	10 JUN 94	1 JUL 94	12 AUG 94 ⁶
RDT&E									
•TMD	1,516.044	1,768.169	1,635.076	1,635.076	1,635.076	1,743.169	1,743.169	1,743.169	1,653.685
- Adv. Tech. Demo	393.457	479.131	480.281	480.281	480.281	282.581 ³	282.581 ³	282.581 ³	440.775
- Dem / Val	1,080.490	1,071.283	974.040 ¹	974.040 ¹	974.040 ¹	1,146.283 ³	1,146.283 ⁴	1,146.283 ⁴	928.205
- EMD	42.097	217.755	180.755	180.755	180.755	217.755 ¹	217.755	217.755	284.705
- Follow-on TMD Systems	0.000	0.000	0.000	0.000	0.000	96.550	96.550	96.550	
•BMD	1,101.156	1,211.686	856.686	856.686	856.686	815.624	815.624	815.624	872.950
- Exploratory Dev	73.053	106.460	73.460	73.460	73.460	106.460	106.460	106.460	95.460
- Adv. Tech. Dev - Other	268.792	302.931	184.393	184.393	184.393	163.931 ³	163.931 ³	213.931 ³	207.490
- Adv. Tech. Dev - NMD	560.509	467.062	400.000	400.000	400.000	400.000	400.000	400.000	400.000
- Dem / Val - NMD	0.000	120.000	2	2	2	2	2	2	2
- Management Support	198.802	215.233	198.833	198.833	198.833	145.233	145.233	145.233	170.000
Total RDT&E	2,617.200	2,979.855	2,491.762	2,491.762	2,491.762	2,558.793	2,558.793	2,558.793	2,526.635
Procurement									
•TMD	120.179	273.390	258.894	258.894	258.894	273.390	273.390	273.390	273.390
MILCON									
•BMD	2.727	0.530	0.530	0.530	0.530	0.530	0.530	0.530	0.530
Total	2,740.646	3,253.775	2,751.186	2,751.186	2,751.186	2,832.713	2,832.713	2,882.713 ⁵	2,800.555

Note: 1- Includes \$210M Risk Reduction Activities Directed By The HASC

2- Brilliant Eyes Transferred To Defense Agencies RDT&E Account

3- Reflects Transfer Of BPI / CSAM / Navy Upper Tier To "Follow-on TMD Systems" Program Element As Directed By SASC

4- Includes \$75M In Risk Reduction Activities Directed By SASC

5- Amendment To Restore \$50M For Chemical Laser (Included In Advanced Technology Development - Other) Was Passed On The Senate Floor, 24 JUN 94

6- Authorization Conference Report Provides Funding For 14 Separate BMDO Program Elements

FUNDING

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REPORTS REQUIRED BY THE HOUSE FY95 DOD AUTHORIZATION BILL

REQUIRED BY THE BILL

1. Secretary of Defense shall submit to the congressional defense committees notice of proposed expenditures from the Early Warning Assurance Fund. (H.R. 4301, page 22)

Funds may not be obligated until notice is submitted

2. Secretary of Defense shall submit notice of his plans to obligate funds for the TMD Risk Reduction activities. (H.R. 4301, page 44)

Funds may not be obligated until 30 days after the date on which the Secretary of Defense submits notice

REQUIRED BY THE REPORT

1. Secretary of Defense shall provide congressional defense committees with classified and unclassified assessments of the threat from weapons of mass destruction delivered by theater ballistic missiles. The Secretary shall also determine the standards of performance BMDO systems are expected to achieve and must be achieved to counter the threats posed by longer range missiles of mass destruction. (H.Rept 103-499, page 129)

Submitted with the FY96 budget request

2. Director, BMDO shall provide a report to the congressional defense committees on any contracts or agreements BMDO plans to sign or enter into on a noncompetitive basis with a national laboratory for suborbital launch services in the next fiscal year. (H.Rept. 103-499, page 132)

Submitted February 1, 1995 and for the next five years

3. Committee directs the Secretary of Defense to evaluate past Air Force and BMDO Mercury Cadmium Telluride (MCT) tests, and to perform additional tests of these detectors for the infrared focal plane arrays and other detector applications such as explosive material detection. Secretary shall report findings to the congressional defense committees. (H.Rept. 103-499; page 139)

Not later than February 1, 1995

4. Secretary of Defense shall submit a report to the congressional defense committees detailing other DOD functions that could use the National Test Facility's computing capabilities. (H.Rept. 103-499; page 139)

January 1, 1995

REPORTS REQUIRED BY THE SENATE FY95 DOD AUTHORIZATION BILL

REQUIRED BY THE BILL

1. The Secretary of Defense shall review BE to determine whether, and under what conditions, the development, testing, and deployment of that system in conjunction with a theater ballistic missile defense system, with a limited national missile defense system, and with both such systems, would be in compliance with the ABM Treaty. (S. 2182, Page 34)
2. If the funds made available for FY95 for Navy Upper Tier exceed \$17,725,000 the Secretary of Defense shall review Navy Upper Tier program to determine whether the development, testing, and deployment of that system would be in compliance with the ABM Treaty. (S. 2182, Page 35)

Not more than \$50M may be obligated until report is submitted.

Not more than \$17,725,000 may be obligated until report is submitted.

REQUIRED BY THE REPORT

- | | |
|--|---|
| 1. Secretary of Defense shall report on his views on all issues raised in the report on "Missile Warning and Tracking" to include BE. (S.Rept. 103-282, Page 89) | Submitted by April 1, 1995 |
| 2. Secretary of Defense shall inform the congressional defense committees of his proposed allocation of funds among the designated programs, in the risk mitigation fund, including such funds as he may choose to reserve for subsequent obligation. (S.Rept. 103-282, Page 131) | Not less than 30 days prior to the obligation of any part of the risk mitigation fund |
| 3. Secretary of Defense shall conduct a detailed review of the concept of building upon ERIS and LEAP-type hardware to provide early flight-testing and an early availability of "UOES-type" NMD capability, within a budgetary range of \$400-\$500M per year. (S.Rept. 103-282, Page 133) | Not later than March 1, 1995 |
| 4. If THAAD dem/val program is fully compliant as proposed, and if the ongoing negotiations are not completed prior to November 1, 1994, Secretary of Defense shall provide to congressional defense committees a report on the effects of additional delay on the planned THAAD test program. (S.Rept. 103-282, Page 136) | Not later than November 15, 1994 |

REPORTS REQUIRED BY THE FY95 DOD AUTHORIZATION CONFERENCE REPORT

REQUIRED BY THE BILL

1. SecDef shall review the BE program to determine whether, and under what conditions the development, testing, and deployment of the BE missile tracking system in conjunction with a theater ballistic missile defense system, with a limited national missile system, and with both such systems, would be in compliance with the ABM Treaty. (H.Rept. 103-701; Page 39.)

Not more than \$80M may be obligated until report is submitted.

2. SecDef shall review the Navy Upper Tier program to determine whether the development, testing, and deployment of the system being developed under that program would be in compliance with the ABM Treaty. (H.Rept. 103-701; Page 39).

Not more than \$40M may be obligated until report is submitted.

REQUIRED BY THE REPORT

NLT March 1, 1995.

1. SecDef, in consultation with the JCS, shall study the BMDO plans for fielding a limited "UOES-type" NMD capability against a variety of postulated threats. The study shall consider those programmatic changes and reallocations of funds among NMD projects that would minimize the lead-time to field an adequate defense of the U.S. (H.Rept. 103-701; Page 633).
2. Analysis of the lethality of the Navy Lower blast-fragmentation warhead against the full spectrum used by the Army in the analysis of the two competing Patriot PAC-3 warheads; an analysis of the lethality of a notional CORPS SAM system based on ERINT and GBR-T-type hardware against the same threat spectrum and under the same ground rules as Navy Lower Tier above; an analysis of the feasibility of employing either CORPS SAM or Patriot PAC-3 fire units, in lieu of Navy Lower Tier; analysis of the most cost-effective replacement system or systems for ship self-defense against the low-observable, sea-skimming cruise missile threat; after the review of above analyses, CJCS certifies in writing to Congress that, in combination with other available TMD systems, the lethality of the Navy Lower Tier warhead provides an

Not more than \$100M may be obligated until report is submitted.

acceptable level of protection from the threat of chemical weapons submunitions for U.S. troops; and, after the review of above analyses, SecDef certifies to Congress that proceeding with the Navy Lower Tier systems is a cost-effective use of BMDO resources. (H.Rept. 103-701; Page 633)

3. Submit an updated funding profile and schedule setting forth the cost and schedule for development and deployment of the planned Navy Upper Tier system if changes were made to the scope and schedule of the Navy Lower Tier system; an analysis of the cost-effectiveness of the planned Navy Upper Tier system (LEAP) relative to a marinized version of the THAAD interceptor missile; and the compliance report on the Navy Upper Tier has been submitted. (H.Rept. 103-701; Page 634)

No more than \$40M until report submitted.

4. SecDef shall reconstitute the independent review group originally established to review the Army's selection process for the Patriot PAC-3 interceptor decision. The group shall thoroughly review the lethality analysis required for Navy Upper Tier and ARROW/ACES. The results of their reviews and conclusions regarding the comparability of the analyses performed by the Department with the PAC-3 analysis decision shall be submitted to Congress. (H.Rept. 103-701; Page 634)

60 days after DOD completes required lethality studies.

- | | |
|---|--|
| 5. BMDO shall analyze the lethality of the the planned ARROW/ACES warhead against the same spectrum and under the same ground rules as were used in the PAC-3 selection. (H.Rept. 103-701; Page 637) | March 31, 1995. |
| 6. SecDef shall determine the appropriate management organization for BE based on the ongoing DOD review. (H.Rept. 103-701; Page 645) | Within 45 days after date of enactment. |
| 7. Conferees direct a high-power laser program guidance update, with a view toward sustaining a technology base in high-powered lasers for the Army, Navy and Air Force tactical applications. (H.Rept. 103-701; Page 636) | March 31, 1995. |

**REPORTS REQUIRED BY THE
HOUSE FY95 DOD APPROPRIATIONS BILL**

REQUIRED BY THE BILL

REPORT

1. Secretary of Defense shall report to the congressional defense committees how the \$30M reduction to RDT&E management support was allocated among the services and Defense Agencies. (Sec. 8121)

DUE DATE

Not later than December 31, 1994

REPORTS REQUIRED BY THE SENATE FY95 DOD APPROPRIATIONS BILL

REQUIRED BY THE REPORT

REPORT

DUE DATE

- | | |
|---|--|
| 1. Secretary of Defense shall submit a plan outlining the detailed implementation of the Enhanced Competition Development Program for ALARM and BE to conduct flight tests between BE and ALARM. (S.Rept. 103-321; Page 233) | Not more one-half of funds may be obligated prior to Congress receiving a plan |
| 2. BMDO shall provide a plan to Congress on how they plan to distribute the funds in the new BPI account. (S.Rept. 103-321; Page 335) | No funds may be obligated until Congress receives plan |
| 3. Committee recommends that up to \$15M of BPI funds may be used for a joint U.S.-Israel Boost Phase Intercept Program provided the SecDef provides the following certifications to congressional defense committees: (a) the U.S. and Israel have entered into an international agreement governing the conduct and funding of such a joint effort; and (b) the projects will have specific, direct benefits for the U.S. (S.Rept. 103-321; Page 335) | No funds may be obligated until Congress receives certification |

**BALLISTIC MISSILE DEFENSE ORGANIZATION
FUNDING**

**REPORTS REQUIRED BY THE DOD APPROPRIATIONS
CONFERENCE REPORT (H.R. 4650; H.REPT. 103-747)**

REQUIRED BY THE REPORT

REPORT

Conferees have provided an increase of \$3,000,000 only to pursue activities under a joint U.S.-Israel Boost Phase Intercept Program. Funds may be used once the SecDef provides the following certifications: (a) the U.S. and Israel have entered into a contractual effort; and (b) the projects will have specific, direct benefits for the U.S.

REQUIRED BY

No obligation until certification complete



REPORTS REQUIRED



FY 95 APPROPRIATION FUNDING TRACK

TY \$ In Millions

Appropriation	FY 94 Approp	FY 95 Budget Request	HAC Sub Committee	HAC Full Committee	House Floor	SAC Sub Committee	SAC Full Committee	Senate Floor	Appropriation Conference
Date Of Event		7 FEB 94	13 JUN 94	27 JUN 94	30 JUN 94	25 JUL 94	30 JUL 94	11 AUG 94	26 SEP 94
RDT&E									
• TMD	1,516.044	1,768.169	1,775.186	1,775.186	1,775.186	1,697.972	1,697.972	1,697.972	1,663.602
- Adv. Tech. Dev.	393.457	479.131	581.381	581.381	581.381	436.814	436.814	436.814	471.931
- Dem / Val	1,080.490	1,071.283	976.050	976.050	976.050	1,043.403	1,043.403	1,043.403	973.916
- EMD	42.097	217.755	217.755	217.755	217.755	217.755	217.755	217.755	217.755
• BMD	1,101.156	1,211.686	716.576	716.576	716.576	860.883	860.883	860.883	863.033
- Exploratory Dev	73.053	106.460	73.460	73.460	73.460	81.406	81.406	81.406	81.406*
- Adv. Tech. Dev - Other	268.792	302.931	202.556	202.556	202.556	216.331	216.331	216.331	183.631
- Adv. Tech. Dev - NMD	560.509	467.062	241.727	241.727	241.727	400.000	400.000	400.000	400.000
- Dem / Val - NMD	0.000	120.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
- Management Support	198.802	215.233	198.833	198.833	198.833	163.146	163.146	163.146	197.996**
Total RDT&E	2,617.200	2,979.855	2,491.762	2,491.762	2,491.762	2,558.855	2,558.855	2,558.855	2,526.635
Procurement									
• TMD	120.719	273.390	258.894	258.894	258.894	273.390	273.390	273.390	273.390
MILCON									
• BMD	2.727	0.530	0.530	0.530	0.530	0.530	0.530	0.530	0.530
Total	2,740.646	3,253.775	2,751.186	2,751.186	2,751.186	2,832.775	2,832.775	2,832.775	2,800.555

* Included In Appropriation Conference Follow-on Technologies PE

** Includes \$34.850M Of TMD Test & Eval Support Which Was Requested Under TMD Dem / Val

BALLISTIC MISSILE DEFENSE FUNDING

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE:

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SEC. 201. AUTHORIZATION OF APPROPRIATIONS.

Funds are hereby authorized to be appropriated for fiscal year 1995 for the use of the Department of Defense for research, development, test, and evaluation as follows:

- (1) *For the Army \$5,425,303,000.*
- (2) *For the Navy, \$8,913,963,000.*
- (3) *For the Air Force, \$12,318,766,000.*
- (4) *For Defense-wide activities, \$9,325,708,000,*

of which—

- (A) *\$254,995,000 is authorized for the activities of the Director, Test and Evaluation; and*
- (B) *\$12,501,000 is authorized for the Director of Operational Test and Evaluation.*

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

BILL LANGUAGE:

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SEC. 201. AUTHORIZATION OF APPROPRIATIONS.

Funds are hereby authorized to be appropriated for fiscal year 1995 for the use of the Department of Defense for research, development, test, and evaluation, as follows:

- (1) For the Army, \$5,149,708,000.
- (2) For the Navy, \$8,796,129,000.
- (3) For the Air Force, \$12,329,796,000.
- (4) For Defense-wide activities,

\$9,565,299,000, of which—

- (A) \$230,495,000 is authorized for the activities of the Director, Test and Evaluation; and

- (B) \$12,501,000 is authorized for the Director of Operational Test and Evaluation.

BALLISTIC MISSILE DEFENSE FUNDING (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE:

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SEC. 231. BALLISTIC MISSILE DEFENSE ORGANIZATION

BUDGET PRESENTATION.

In the budget of the President for any fiscal year, amounts requested for the Ballistic Missile Defense Organization shall be set forth showing the amounts requested for each individual program, project, and activity of that organization as well as the total amount requested for the organization.

SEC. 232. THEATER MISSILE DEFENSE PROGRAMS.

(a) NAVAL THEATER MISSILE DEFENSE.—Of the amount provided for the Ballistic Missile Defense Organization under section 201 for Theater Missile Defense, not less than \$40,000,000 shall be available to support the aggressive exploration of the Navy Upper Tier Program for Naval Theater Missile Defense.

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

BILL LANGUAGE:

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SEC. 223. LIMITATION.

No funds appropriated pursuant to an authorization of appropriations in this title or otherwise made available for fiscal year 1995 for programs managed by the Ballistic Missile Defense Organization may be obligated for such programs until the Secretary of Defense submits to Congress the report required by section 235(b) of the National Defense Authorization Act for Fiscal Year 1994 (Public Law 103-160; 107 Stat. 1598).

BALLISTIC MISSILE DEFENSE FUNDING (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
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SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

BILL LANGUAGE:

(b) ACCELERATED ADVANCED CONCEPT TECHNOLOGY
DEMONSTRATION PROGRAM.—The Secretary of Defense, acting through the Director of the Ballistic Missile Defense Organization, shall initiate during fiscal year 1995 an accelerated Advanced Concept Technology Demonstration Program to demonstrate the technical feasibility of using the Navy's Block IV Standard Missile combined with a kick stage rocket motor and the lightweight Exoatmospheric Projectile (LEAP) as a near-term option for cost-effective wide-area Theater Missile Defense.

BALLISTIC MISSILE DEFENSE FUNDING (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
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(c) THEATER MISSILE DEFENSE PROGRAM PRIORITIES.—(1) The Secretary of Defense, acting through the Director of the Ballistic Missile Defense Organization, shall establish as the first priority of the Theater Missile Defense Program the deployment of—

(A) a layered land-based Theater Missile Defense capability consisting of the Patriot Advanced Capability (PAC-3) system and the Theater High-Altitude Area Defense (THAAD) system; and

(B) a layered sea-based Theater Missile Defense capability consisting of the Navy Lower Tier theater missile defense program and the Navy Upper Tier theater missile defense program.

BALLISTIC MISSILE DEFENSE FUNDING (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

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SENATE FY95 DOD AUTHORIZATION BILL
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(2) Each program referred to in paragraph (1) shall be treated by the Department of Defense as a major acquisition program for funding purposes for fiscal years 1995 through 1999, as prescribed in the October 1993 report of the Secretary of Defense entitled "Report on the Bottom Up Review" and in Defense Planning Guidance.

SEC. 233. THEATER MISSILE DEFENSE RISK REDUCTION ACTIVITIES.

ACTIVITIES.

(a) IN GENERAL.—Of the amount provided in section 201 for Defense-Wide Activities, \$210,000,000 is for theater missile defense risk reduction activities of the Ballistic Mis-

BALLISTIC MISSILE DEFENSE ORGANIZATION FUNDING (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

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SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

REPORT LANGUAGE

site Defense Organization. None of such amount may be obligated for a program specified in subsection (b) until 30 days after the date on which the Secretary of Defense submits to the congressional defense committees notice of the Secretary's plans to obligate funds for such program.

(b) PROGRAMS.—The programs referred to in subsection (a) are the following:

- (1) The Extended-Range Interceptor (ERINT) program.*
- (2) The Multi-Mode Missile.*
- (3) Sea-based lower tier systems.*
- (4) Sea-based upper tier systems.*

BALLISTIC MISSILE DEFENSE FUNDING (CONTINUED)

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

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HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

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The budget request contained \$3,253.8 million for the Ballistic Missile Defense Organization (BMDO). This includes \$2,979.9 million for research and development, \$273.4 million for procurement, and \$500,000 for military construction. The committee recommends authorization of \$2,741.3 million for BMDO, comprised of \$2,581.9 million for research and development, \$258.9 million for procurement, and \$500,000 for military construction.

The committee is pleased that the BMDO has made substantial efforts to redirect its programs away from past priorities to conform to the missile defense priorities established by the Bottom-Up Review. As a result, most of BMDO's programs concentrate on theater missile defenses. A limited national missile defense program is authorized to be a hedge against the emergence of a greater long-range missile threat than is now projected.

The committee believes that the theater ballistic missile threat deserves top priority. At the same time, however, the committee believes it is important to characterize this threat accurately. The biggest theater missile threat comes from relatively short-range ballistic missiles. This is understandable because the cost and technical complexity of ballistic missiles increase exponentially as their range increases. The Department maintains that 97 percent of the theater ballistic missile threat is from ballistic missiles with ranges of 1000 kilometers (620 miles) or less. Therefore, the committee believes that defense against these shorter range missiles should be BMDO's top near-term priority within its theater missile defense efforts.

Longer-range missiles are substantially more expensive and difficult to develop, build, and maintain than shorter range missiles. Moreover, longer-range missiles are useful primarily for carrying weapons of mass destruction. It would be militarily counterproductive to spend millions of dollars for individual missiles to deliver—with poor accuracy—the equivalent of two to four 500 pound bombs.

In overview, the committee recommends reducing the request of \$3253.2 million for BMDO (excluding military construction) by transferring \$120.0 million for the Brilliant Eyes program to the Air Force and \$50.0 million to maintain a national technology base program for high-energy laser research outside BMDO, and by recommending additional specific reductions of \$326.0 million and additional specific increases of \$75.0 million, for a net authorization of \$2,832.2 million for fiscal year 1995. The committee recommends full funding of the procurement request, and recommends \$2,558.8 million for research, development, testing, and evaluation (RDT&E).

The committee addresses specific funding and programmatic guidance for BMDO under the following subsections:

- Theater missile defenses
- National missile defenses
- Follow-on technologies
- Management support
- Compliance of THAAD flight testing during fiscal year 1995
- Compliance reviews
- Revisions to the Missile Defense Act
- Limitation on obligation of BMDO funds

Theater Missile Defenses

The committee commends BMDO for its restructuring and consolidation of TMD programs, and endorses the priority shown in the funding request for near-term TMD systems. The committee also endorses the Department's selection of the ERINT missile as the Patriot PAC-3 interceptor. The committee takes note, however, of the comments by review panels that the ERINT program is not without technical risk. Therefore, in view of the importance of early deployment of improved TBM capabilities, the committee concludes that at the same time ERINT is entering the engineering and man-

BALLISTIC MISSILE DEFENSE FUNDING (CONTINUED)

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REPORT LANGUAGE:

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Long range missiles equipped with chemical, biological, or nuclear warheads would indeed impose extremely demanding performance requirements on U.S. missile defense systems. Upper-tier missile defenses should be designed to counter this threat and should seek to provide near-perfect defenses (far in excess of 90 percent success rate). The prospect of just one nuclear-armed missile out of ten getting through missile defenses and detonating in an area where U.S. military personnel were concentrated would have a decidedly chilling effect on public support for U.S. involvement in major regional contingencies. Even successful interceptions of hostile missiles would not necessarily mean protection of our troops from harm. Nuclear-armed missiles can be configured to detonate upon interception. In addition, interception does not necessarily destroy all the chemical or biological agents in a missile warhead.

To date, the Department has not addressed the issue of theater missile defense systems performance standards. Moreover, the BMDO is on the threshold of committing billions of dollars to the production of missile defenses. Consequently, the committee believes performance standards must be squarely faced if public support for theater ballistic missile defense efforts is to be sustained and before acquisition choices are made.

Therefore, the committee directs the Secretary of Defense to provide the congressional defense committees with classified and unclassified assessments of the threat from weapons of mass destruction delivered by theater ballistic missiles. The committee further directs the Secretary to determine the standards of performance BMDO systems are expected to achieve and must be achieved to counter the threats posed longer range missiles of mass destruction. This assessment shall be submitted with the fiscal year 1996 budget request.

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

REPORT LANGUAGE:

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ufacturing development (EMD) phase, continued research and development on the multi-mode missile is a wise hedge against the possibility of technical problems with ERINT early in its EMD phase. The committee understands that some \$58.5 million is already available within the total PAC-3 request for risk-mitigation efforts, the bulk of which, DOD has informally indicated, is to be allocated to the multi-mode missile program.

The committee notes BMDO testimony that, after funding the NMD, follow-on technologies, and near-term TMD programs as recommended in the BUR, the remaining TMD funding would be adequate to allow only one of three follow-on TMD systems to enter EMD in about 1998. In effect, BMDO claims the overall funding level approved by the Administration—\$17.6 billion over five years—will force the Congress to choose one candidate from among Navy upper tier, CORPS SAM, and some candidate boost-phase intercept (BPI) programs. The committee believes a strong case could be made for pursuing EMD on all three systems, should the development of technologies be accomplished successfully.

In the following, the committee proposes a different solution to the BMDO "Hobson's choice": the committee intends to vigorously scrutinize and, where possible, reduce BMDO "overhead" functions, in order to devote more of the \$17.6 billion in the Future Years Defense Program (FYDP) to specific defense programs like the three follow-on TMD candidates, as well as to a reinvigorated NMD program. The committee expects BMDO to facilitate the development and deployment of defenses against ballistic missiles, to provide "value added" to the process. BMDO overhead cannot and will not be allowed to become a burden, a "tax," on timely development and deployment of effective missile defenses.

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The committee notes that for the last ten years, the overall ballistic missile defense program has been exempt from the normal budgetary discipline of funding for specific tasks. The BMD program now has a more stable set of objectives and is a more mature program. Accordingly, the committee has recommended authorizations by specific line item effort (as reflected in this report) and directs the Secretary of Defense in section 231 of the bill to submit future budgets on such a line item basis.

Upper tier theater missile defenses

The committee supports BMD's upper tier research efforts. The committee believes that both the land-based and ship-based approaches have the potential to make important contributions to theater missile defense efforts. The committee urges the Secretary to take steps to minimize possible duplication of effort between the two approaches and to pursue those technologies that will maximize system performance in terms of lethality and extremely high intercept probability while keeping costs as low as possible.

Accordingly, the committee has recommended authorization of \$495.7 million for the Theater High Altitude Air Defense system (the full amount requested), and \$40 million for sea-based wide area defense (a \$22.25 million increase over the request). The sea-based wide area defense program is also eligible for consideration under the Theater Missile Defense Risk Reduction Fund. These funds should be used to accelerate testing of various concepts and to perform appropriate systems studies.

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For the past several years, the congressional defense committees have repeatedly tried to develop a system for funding, reporting on, and providing oversight over ballistic missile defense programs that would both provide the BMDO adequate flexibility to pursue promising avenues of research and provide appropriate oversight to the congressional defense committees. The results of this process continue to be disappointing. The current budgetary submission contains 13 separate line-items; four are labeled "Ballistic Missile Defense Technology," four others are labeled "Theater Missile Defenses," and the only NMD-related line-item requests no funding for fiscal year 1995.

As the Congress has reduced the portion of BMDO budgets devoted to exploratory research on a wide range of promising technologies, and increased the funding for development of well-defined programs, particularly in the TMD arena, it is now time for the congressional defense committees to authorize and appropriate funds for specific TMD programs and activities, much as they do for other major defense programs.

Therefore, the committee recommends the following specific amounts for the near-term TMD programs under BMDO purview:

- For Patriot PAC-3, including risk-mitigation funds, \$600.0 million;
- For THAAD, \$495.7 million;
- For the Navy lower-tier program, \$194.0 million;
- For the ground based radar-tactical (GBR-T) program, \$173.2 million;
- For the Hawk system upgrades, \$30.6 million; and

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Lower tier theater missile defenses

The committee is concerned about the inconsistency between the land-based and sea-based lower tier theater missile defense programs. The committee notes that the Extended Range Interceptor (ERINT) missile, recently selected as the interceptor for the PAC-3 system, uses an interception concept known as "hit-to-kill." Under this concept, the interceptor directly hits its target at high speed, rather than coming close and exploding a warhead (called "blast fragmentation") as the Multi-Mode missile does.

The Department has explicitly and emphatically stated that the ERINT missile's "hit-to-kill" technology was the dominating factor in selecting the PAC-3 instead of the Multi-Mode missile. The Army has noted that a blast-fragmentation warhead allows a greater percentage of warhead submunitions and chemical/biological agents to survive intercept and land within targeted areas. The PAC-3 interceptor source selection decision was intensely scrutinized by the Army, the Defense Acquisition Board, and an independent panel of distinguished experts. All three reviews ratified the hit-to-kill concept and the ERINT selection. The committee accepts this judgment and believes that the new hit-to-kill approach is promising, though some level of risk remains (as the review board has pointed out).

The Navy lower tier interceptor utilizes the same, allegedly inferior, blast fragmentation approach that was explicitly and repeatedly rejected as the Army lower tier interceptor. This contradictory acquisition policy raises serious questions about the Navy lower tier option. The committee does not understand the Department's actions on these two programs and has received no satisfactory answers.

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—For battle management, command, control, communications, and intelligence for TMD systems, \$34.1 million.
The committee also recommends the following allocations for support of additional TMD programs:

—For follow-on TMD programs, including Navy upper tier, CORPS SAM, and BMDO BPI programs, \$96.6 million; and
—For a risk mitigation fund to accelerate development and deployment of TMD systems, \$75.0 million.

BMDO and the Department of Defense Comptroller are directed to use these specific line-items in budget submissions and reports to the Congress as of October 1, 1994.

Funds contained in the risk mitigation fund may be used to increase funding for Patriot PAC-3 capabilities, including additional risk-mitigation activities, and for the acceleration of any or all of the follow-on TMD programs, at the discretion of the Secretary of Defense. Not less than 30 days prior to the obligation of any part of the risk mitigation fund, the Secretary shall inform the congressional defense committees of his proposed allocation of funds among the designated programs, including such funds as he may choose to reserve for subsequent obligation.

The committee has closely followed the selection of one of the two candidates—ERINT and multi-mode missile—for the PAC-3 system. We are pleased that the Department has finally completed the Defense Acquisition Board process and is moving to develop ERINT, the selected missile.

However, the committee recognizes that the multi-mode missile has substantial potential against various threats, especially cruise missiles and electronic countermeasures, that are worth developing in the context of the planned risk mitigation program. While the full scope of this program has not been finalized, the committee recommends that it include sufficient flight tests to validate these needed capabilities.

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In addition, the committee is concerned about the tension between the need for missile-defense equipped ships to remain close to shore to protect shore areas, and the need for these ships to stand off from shore to reduce their exposure to missiles and other shore-based fire. The committee believes that this tension and the warhead lethality issue must be resolved before this multi-billion dollar Navy lower tier program proceeds.

Accordingly, the committee recommends authorization of \$210 million in demonstration-validation research, development, testing and evaluation (RDT&E) to be focussed on selected theater missile defense risk reduction activities: the three lower tier theater ballistic missile approaches (ERINT, Multi Mode, and Navy lower tier interceptors); and the sea-based wide area defense program. The committee directs the Secretary to use ERINT and Multi Mode funds to reduce risk in the PAC-3 program.

Section 233 would prohibit the Secretary of Defense from obligating these funds until 30 days after the Secretary provides the Congressional defense committees with a plan for allocating these funds. However, the Secretary should not obligate more than \$79.5 million for the Navy lower tier effort until the Secretary certifies to the congressional defense committees that a blast fragmentation warhead for a Navy lower tier defense interceptor is superior to a hit-to-kill lower tier warhead.

The committee further directs that funds for the Navy lower tier system should be used to determine the proper warhead lethality

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National Missile Defenses

The committee continues to be troubled by the apparent inconsistencies in the Department's proposed NMD Technology Readiness proposal. In broad outline, it proposes to allocate \$3.0 billion over the next five years to this activity, including more than \$500 million for the development and deployment of prototype Brilliant Eyes (BE) satellites. No flight-test demonstrations of radar, interceptor technology, or kill vehicle technology are envisioned. This leads the committee to question the value of early-deployed BE satellites to the NMD program, when, according to the BUR description of the option selected, by the end of the decade, "... it would take 10 to 15 years to deploy an operationally effective system ...". Thus, the committee does not believe the "Technology Readiness" program will serve to provide an adequate hedge against the possible emergence of a threat. CIA Director James Woolsey has testified that such a threat could arise on a timetable of eight to 15 years; yet the proposed program would leave us still 10 to 15 years away from effective defenses at the end of this decade. In addition, the threat could arise more rapidly than the intelligence community now projects.

BMDO and some contractors have suggested that BE could enhance the effectiveness of most TMD systems; however, no TMD funds are allocated to BE, and the TMD user community has not shown strong interest in BE availability. Moreover, for the wider area TMD systems, where BE arguably provides the greatest benefit, use of BE data may compound compliance problems. (For example, the committee is aware of contractor briefings purporting to show that Navy vessels with the upper tier capability plus BE tracking data could provide a thin defense of most of the continental United States from East Coast and West Coast ports.)

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approach for this program and the feasibility of adapting the Army lower tier interceptor for use on ships. The committee believes that the primary focus of the Navy lower tier program should be the interception of ballistic missiles and that program alternatives should be evaluated in this light. The committee notes that the Navy has other systems that address air breathing threats. The committee recommends no authorization of funds to begin procurement for the sea-based lower tier system.

Boost-phase interception

The committee notes the Department's recent emphasis on boost-phase interception of theater ballistic missiles. As a general proposition, the committee appreciates the many attractive features of this approach to ballistic missile defense but is puzzled by the Department's approach to the issue. The demanding timelines of boost-phase interception pose major problems to traditional interceptor approaches that would be aggravated by relatively modest offensive countermeasures.

For example, a laser-based approach to boost-phase interception seems to provide a better answer, but lasers capable of maintaining beam focus while traveling long distances through the atmosphere are a formidable technological challenge. Both approaches also raise significant Anti-Ballistic Missile Treaty questions as well. The committee notes that the BMDO is seeking more funding for space-based laser research than it is for atmospheric-based boost-phase interception, priorities with which the committee does not concur.

The Department has not presented the committee with persuasive evidence that the Department's overall priorities in this area are proper. Accordingly, the committee has recommended authorization of \$33.6 million for boost-phase interception RDT&E, a \$27.5 million reduction from the requested level. The committee has also recommended authorization of \$20.5 million for chemical laser research, a \$57.0 million reduction. The committee further recommends that the Secretary use this funding for atmospheric and ground-based laser approaches.

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Last year, the committee posed a number of questions regarding the Department's missile warning and tracking programs. The committee is not fully satisfied with the Department's response to the issues it raised. Accordingly, elsewhere in this report, the committee provides additional guidance regarding these matters. As one element of that guidance, the requested funding for BE of \$120.0 million is transferred to the Air Force, which shall also retain program management authority for fiscal year 1995.

The committee reluctantly accepts the lower priority placed on the NMD program, but does not accept the BMDO proposed "Technology Readiness" program or timetable. Given the limited resources allocated to NMD under the BUR, and the uncertain timing of a future threat, the committee believes BMDO should continue the development and testing of more mature demonstration technologies such as ERIS and LEAP, rather than focusing on further miniaturization of interceptors and kill vehicles. Since the scope of any contingency deployment is likely to be tens, rather than hundreds or thousands, of interceptors, continuing development of existing technologies seems a better strategy for a fiscally constrained environment. The objective for such an effort should be to develop and test, as rapidly as available NMD funding will permit, a limited, "JONES-type" capability using existing flight-qualified hardware, even though such hardware may not incorporate the latest "state-of-the-art" technology.

The ERIS booster and LEAP kill vehicle both have demonstrated substantial flyout and engagement ranges. Thus, one early focus for an NMD program would be to provide adequate tracking data. Adequate tracking of hostile reentry vehicles might be accomplished by any of several means—BE satellites, if deployed; upgraded BMEWS and PAVE PAWS radars; GSTS-type probes; or a self-contained optical tracking stage carried aboard an ERIS-type interceptor. The development of a fixed, land-based NMD radar

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National missile defense

As noted above, the committee is in general agreement with the Bottom-Up Review's (BUR) ballistic missile defense priorities. The BUR recommends expenditures for national missile defense of \$400 million per year, and \$200 million per year for the Brilliant Eyes sensor program.

The committee recommends denying the \$120 million request (within the BMDO) for Brilliant Eyes. However, the committee has recommended, in another portion of the bill, \$300 million for the satellite early warning assurance fund, of which \$120 million was derived from the Brilliant Eyes request. The committee recommends giving the BMDO the discretion to fund Brilliant Eyes, and the other alternatives described above, from this account. The committee has recommended authorization of \$400 million in other national missile defense programs as called for by the Bottom-Up Review.

Technology base

In addition to the funding modifications described above, the committee recommends specific changes in the technology base program supporting the Ballistic Missile Defense Organization as detailed in the table below. All other projects within the technology base program are recommended for authorization at the requested levels.

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should be matched to technical progress on the TMD ground-based radar.

The budget request for NMD activities was \$587.0 million; the transfer of BE to the Air Force reduces this level to \$467.0 million. The committee directs the Secretary of Defense to conduct a detailed review of the concept of building upon ERIS- and LEAP-type hardware to provide early flight-testing and an early availability of a "UOES-type" NMD capability, within a budgetary range of \$400-\$500 million per year. The Secretary shall provide to the congressional defense committees not later than March 1, 1995, a report on the results of his review, including comparisons of its cost and timetable with the Technology Readiness program proposed by BMDO.

Because of the need to develop a revised NMD program direction and milestones oriented toward early demonstration of a UOES capability, the committee recommends reducing the request by an additional \$67.0 million. The committee expects the Department to request funding consistent with the BUR projections for the NMD program for fiscal year 1996, and to reflect a robust NMD program in the next Future Years Defense Program.

Follow-on Technologies

BMDO funds and oversees numerous important high-technology programs within the follow-on technologies program element; some, such as high-energy laser research, are unique within the Department of Defense. However, the cost of follow-on technologies, in terms of program management and other BMDO resources, is high, and some of these programs tend to be "lightning-rods" for opponents of robust ballistic missile defenses. For this reason, for the past two years, the committee and the Congress have been urging the Secretary of Defense to transfer from BMDO to other agencies those research activities on technologies that may prove to be relevant to advanced missile defense concepts, but that have no prospect of reaching engineering and manufacturing development within the next decade or two. The Secretary, however, has transferred only a handful of projects; \$409.0 million is still requested for this program area.

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MODIFICATIONS TO BMD TECH BASE PROGRAM

No. and project	Request	Recommended	Change
PE 603216C			
1105 Discrimination	58.1	48.1	(10.0)
1216 NavJupierTier	17.75	40.0	22.25
1501 Survivability	4.9	3.8	(1.1)
1502 Lethality/Tgt	32.8	26.8	(6.0)
3101 EngineerIntSup	45.6	41.6	(4.0)
3201 ArchStudy	42.2	42.2	(0.0)
3300 T&E Support	163.9	163.9	(0.0)
Subtotal			1.15
PE 603217C			
1101 Passive Sensors	24.5	14.5	(10.0)
1102 Radar	10.0	5.0	(5.0)
1106 SensStdExpt	48.6	38.6	(10.0)
2300 BMC3	56.5	39.5	(17.0)
3300 T&E Suppl	103.1	78.0	(25.1)
1215 BP	61.1	33.6	(27.5)
1302 ChemLaser	77.5	20.5	(57.0)
1305 ATP/FC	12.5	6.5	(6.0)
3203 Intel Threat	8.1	6.1	(2.0)
3204 Integration	18.3	14.3	(4.0)
3206 Syst Threat	6.9	4.9	(2.0)
4000 Operational Support	48.0	28.0	(20.0)
Total			(185.6)
PE 603218C			
4000 MgmtSuppl	215.2	198.8	(16.4)

Transfer of these programs to other agencies requires two actions by the Department. One, involving transferring program responsibilities and funding, is easily accomplished. The other, insuring that the recipient agency protects the program and adequately funds it, is harder, and requires firm OSD oversight. Nonetheless, as BMDO moves inevitably toward an engineering development and deployment agency, its efforts need to be focused increasingly on those critical BMD tasks. The committee again strongly urges the Secretary to continue the transfer of far-term follow-on BMD technologies from BMDO to other Services and agencies, and to ensure that they continue to receive high priority once transferred.

The committee notes that the statement of managers accompanying the conference report on the National Defense Authorization Act for Fiscal Year 1994 (H. Rept. 103-357) required the Department to develop a coherent management plan for high-energy laser research programs. That plan has not yet been provided to the committee. The committee, nonetheless, believes a focal point outside BMDO should be established to develop a national technology base in high-energy laser research and development to meet a broad spectrum of possible military missions, not just ballistic missile defenses. Accordingly, the committee recommends the transfer of \$60.0 million to a new high-energy laser research line-item. The Secretary of Defense shall assign management responsibility for these funds to an appropriate military Service or defense agency other than BMDO. The committee encourages consolidation of this high-energy laser program with other programs, should the Secretary's ongoing review so recommend.

The request for follow-on technologies was \$409.0 million; in addition to the transfer of \$50.0 million for high-energy laser research, the committee recommends a reduction of \$89.0 million to the request.

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Additional matters

Finally, the committee continues to support the joint U.S.-Russian space research effort known as RAMOS (Russian-American Observational Satellites). The effort should have substantial defense and environmental benefits, and should assist in tearing down Cold War barriers. Therefore, the committee recommends that \$10 million be made available for RAMOS within program management agreement (PMA) 1106.

The committee also recommends that by February 1, 1995, and for the next five years, the Director of the Ballistic Missile Defense Organization should provide a report to the congressional defense committees on any contracts or agreements BMDO plans to sign or enter into on a noncompetitive basis with a national laboratory for suborbital launch services in the next fiscal year. The report should include a justification for seeking noncompetitive services, a description of the launch vehicle, and an outline of all costs associated with the launch.

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SECTION 231—BALLISTIC MISSILE DEFENSE ORGANIZATION BUDGET PRESENTATION

This provision would require that the amount requested for the Ballistic Missile Defense Organization in any fiscal year would be listed in the budget request by each program element project within that program element, and activity of the BMDO, as well as the total amount requested for the BMDO.

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Management and Support

Of the \$3,253.2 million request for BMD procurement and research, development, testing, and evaluation, the committee notes that \$587.0 million was requested for NMD, \$409.0 million for follow-on technologies, and \$1,624.1 million for specific, mainstream TMD programs. The balance, totalling \$633.1 million, or just under 20 percent of the requested funds, represents the request for other programs and activities, including: BMDO program management; funds for studies and analyses; systems engineering and technical assistance (SETA) support; set-asides for small business innovative research and innovative science and technology; and a host of generic support activities such as test and evaluation activities and lethality studies.

Notwithstanding the important nature of many of these activities, the committee concludes that too much of the BMDO funding request is proposed to be spent on this category, to the detriment of more robust efforts on high-priority TMD and NMD activities. The committee notes that BMDO is requesting \$215.2 million in management support, virtually the same amount as was appropriated for fiscal year 1993 for an SDI program funded at a half-billion-dollar higher level and containing a far more diverse set of activities than in the current BMDO request. The committee, accordingly, recommends a reduction of \$70.0 million in management support.

The committee recognizes that test and evaluation and other supporting activities are necessary ancillary activities, and agrees with the BMDO Director that test and evaluation activities should be centrally directed, to avoid the appearance that specific program managers have "self-test" authority. However, the committee believes that much of the test and evaluation activity required by specific programs can be identified well in advance of need, and can be added to funding for those discrete programs, while perhaps

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maintaining a small contingency reserve. This would serve to reflect more of the true cost of specific programs, and reduce the appearance to outsiders that too much money is allocated to "overhead;" the committee is confident that the BMDO Director can retain control over the commitment of test and evaluation funds within specific programs. The committee recommends a further reduction of \$100.0 million to the remainder of the supporting programs and activities. The committee further directs that, in the fiscal year 1996 budget request, BMDO include identifiable costs for test and evaluation activities for specific TMD and NMD programs and systems.

Limitation on Obligation of BMDO Funds

The committee notes that the theater missile defense master plan required by section 235 of the National Defense Authorization Act for Fiscal Year 1994 has not been delivered as required. The committee, therefore, recommends a provision that would prohibit the obligation of any fiscal year 1995 BMDO funds until the required report has been provided to the congressional defense committees.

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SEC. 235. PROGRAM ELEMENTS FOR BALLISTIC MISSILE DEFENSE ORGANIZATION.

In the budget justification materials submitted to Congress in support of the Department of Defense budget for any fiscal year after fiscal year 1995 (as submitted in the budget of the President), the amount requested for activities of the Ballistic Missile Defense Organization shall be set forth in accordance with the following program elements:

- (1) National Missile Defense.
- (2) Theater High-Altitude Area Defense (THAAD).
- (3) The Hawk Missile system.
- (4) Battle Management, Command, Control, Communications, and Intelligence (BM/C³I).
- (5) Patriot Advanced Capability-3 Missile System.
- (6) Patriot Advanced Capability-3 Missile risk reduction.
- (7) Navy Lower Tier Missile Defense.
- (8) Navy Upper Tier Missile Defense.
- (9) Army Corps Surface-to-Air Missile (CORPS SAM).
- (10) Boost Phase Intercept Program.
- (11) Other Theater Missile Defense Activities.
- (12) Support Technologies.
- (13) Program Management.

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PROCUREMENT

The conferees recommend fully funding the \$273.4 million request for procurement.

ADDITIONAL GUIDANCE

FUNDING RECOMMENDATIONS AND BUDGETARY DATA

The conferees agree to establish a set of distinct program elements for BMDO activities. The conferees' complete recommendation for BMDO funding is contained in the table that follows this discussion, for each program element and for selected programs, projects, and activities within certain program elements. The conferees intend that each program element shown shall be a separate line item, and that these titles shall be used to account for all funds for each such item, whether BMDO attributes the funds to exploratory development, demonstration/validation, EMD, or procurement. Since support activities like test and evaluation were not broken out by projects, the conferees direct that, for fiscal year 1995, the funds for the major TMD system program elements be used to carry out the planned research and development activities presented in budget documents and testimony, and that support for items like test and evaluation activities specifically for those programs be funded from the "other TMD activities" program element. Beginning in fiscal year 1996, to the extent possible, test and evaluation funds and other direct supporting activities associated with specific TMD systems should be requested as a project or task

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within the appropriate program element. The committee expects transfers among the designated program elements to be accomplished through customary prior-approval reprogramming procedures only. The conferees are determined to require BMDO to present budgetary data in an easy-to-comprehend form, allowing the activities comprising major programs and their costs to be readily identifiable. The conferees note that the current submission contains multiple program elements using the same names and that the NMD funding request is commingled in a program element with funds requested for other purposes. That is a totally unacceptable presentation.

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MANAGEMENT SUPPORT

The conferees agree to recommend \$170.0 million for the management support activity, a reduction of \$50.2 million from the requested amount. The conferees note that in fiscal year 1993, BMDO provided oversight of a \$3.7 billion SDIO budget of substantially greater diversity than the present program with a program management budget of \$218.3 million. The total funding recommended herein for BMDO for fiscal year 1993 budget in *nominal* dollars just over 75 percent of the fiscal year 1995 is \$2.8 billion, or less. Yet BMDO requested virtually the same program management budget as in fiscal year 1993. A budget of \$170.0 million for program management is in proportion to the decline in overall BMDO funding levels.

The conferees further direct that, in apportioning this program management budget, BMDO management apportion the reductions in rough proportion to the funding changes within the major program categories. Reductions need to be taken at all levels, including reductions in management layers and overhead.

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Limitation on obligation of ballistic missile defense funds

The Senate bill contained a provision (sec. 223) that would restrict the obligation of any fiscal year 1995 funds for ballistic missile defenses until certain overdue reports are provided to the congressional defense committees.

The House amendment contained no similar provision.

The Senate recedes because the reports in question have now been delivered.

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Provided, That not less

than \$120,000,000 of the funds appropriated in this paragraph are available only for the Sea-Based Wide Area Defense program:

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No language exists.

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Theater Ballistic Missile Defense: The bill includes a \$102 million increase above the budget to accelerate the Sea-Based Wide Area Defense (Navy Upper Tier) program which will provide ballistic missile protection from AEGIS ships. The bill also fully funds the next-generation ERINT and Patriot programs for ground-based ballistic missile protection.

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NAVY TMD

The Ballistic Missile Defense Organization (BMDO) requested \$14,496,000 for Navy theater missile defense. The Committee recommends that these funds be denied, which is consistent with the direction of the House Armed Services Committee. Elsewhere in this report, the Committee directs BMDO to reconsider the technology used in Navy theater missile defense. Therefore, the Committee denies funds for initiating procurement of the system.

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RDT&E INFRASTRUCTURE REDUCTIONS AND MANAGEMENT

The Committee has consistently expressed concerns about the size of the Department of Defense's research, development, test, and evaluation infrastructure. The DOD budget has fallen 35 percent since 1985, but only very limited adjustments have been made in the number and size of DOD laboratories and test ranges.

DOD officials note that test ranges and labs represent capital assets which could be irreplaceable once closed. The Committee understands this view. Similarly, test and evaluation officials provide data showing that very little of the DOD budget increases of the early 1980's went to test range modernization.

Thus far, DOD's response to all of these issues has been to continue to make across-the-board reductions at labs and test ranges. Indeed, the recent budget planning decisions mandate a 3- to 4-percent per year reduction in the RDT&E infrastructure. This builds on a 14-percent real decline in RDT&E funds since 1985. During this decline, budgets for the Advanced Research Projects Agency [ARPA] and the Ballistic Missile Defense Organization [BMDO] have grown significantly.

In fact, many look upon ARPA as the model approach for conducting defense research and development activities. However, many might differ on these issues, and there are clearly cases of ARPA-developed technologies which have not transitioned to operational users. Furthermore, ARPA's success is partially attributable to the service laboratories which execute a significant portion of ARPA's programs on a day-to-day basis. Some perceive the service laboratories as costly, level-of-effort activities which are disconnected from the service users. Thus, while some point to ARPA's relative lack of infrastructure, it must be clearly recognized that programs and developments do not materialize from thin air. While there are points to be made on all sides of this matter, most would agree that there is room for improved coordination and planning.

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THEATER MISSILE DEFENSES

The Air Force requested \$79,302,000 for theater missile defenses. The Committee recommends \$27,302,000, a reduction of \$52,000,000 for boost phase intercept. The Committee believes that if this program is pursued by the Defense Department, it should be structured to meet joint service requirements and be subject to the priorities and disciplines inherent in the Ballistic Missile Defense program for which this bill provides about \$2,750,000,000.

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BALLISTIC MISSILE DEFENSE

The Department requested \$2,979,855,000 for Ballistic Missile Defense research and development programs. The Committee recommends \$2,491,762,000 for the Ballistic Missile Defense Organization's (BMDO) research and development programs, a reduction of \$488,093,000. This level of funding is the same as proposed by the House Armed Services Committee. The Committee recommends specific changes in Ballistic Missile Defense Organization programs as detailed in the table below.

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Within the recommendations on the DOD RDT&E budget request, the Committee has taken one small step toward adapting the RDT&E infrastructure to new fiscal and military realities. The Committee has taken a number of ARPA projects and transferred these efforts to the services. Also, a number of service efforts have been transferred to ARPA. The Committee's intent here is that the best practices and technologies at ARPA migrate into the service development community. Likewise, ARPA can become more attuned to the service labs and their responsibilities. Further, with the service labs striving to improve their links with operational users, all parties may gain new perspectives on critical future defense needs.

Unfortunately, the current fiscal environment is not likely to permit growth in the RDT&E accounts. Thus, many larger steps must be taken to plan for the future of defense RDT&E. A strategic plan for managing the drawdown of the Department of Defense RDT&E infrastructure is long overdue. The continued implementation of gradual, across-the-board reductions will only starve facilities and erode capability. DOD must establish priorities and make the difficult decisions which will ensure critical research, development, test, and evaluation skills and facilities are maintained. The Committee directs that, not later than March 31, 1995, the Director, Defense Research and Engineering, submit to the congressional Defense committees a strategic plan describing in detail such recommendations.

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MODIFICATIONS TO BMD PROGRAM

[In thousands of dollars]

Project	Request	MSC	MAC	Change
PE 0602217	106,460	73,460	73,460	-33,000
Ballistic Missile Defense Technology				
PE 0603216	491,131	480,281	581,381	+102,250
Theater Missile Defense	17,750	40,000	120,000	+102,250
Sea-Based Wide Area Defense				
PE 0603217	769,993	584,393	444,283	-325,710
Ballistic Missile Defense Technology	61,100	33,600	17,725	-43,375
BPI	77,500	20,500	20,500	-57,000
Chemical Laser	0	0	-225,335	-225,335
Undistributed Reduction to NMD				
PE 0604216	1,071,283	974,040	975,050	-95,233
Theater Missile Defense	69,240	0	69,240	0
Patriot	58,460	0	58,460	0
ERINT	0	210,000	0	-210,000
Lower Tier Risk Reduct	495,690	495,690	480,000	-15,690
THAAD	179,543	0	100,000	-79,543
Sea Based TMD INT				
PE 0603218	215,233	198,833	198,833	-16,400
Research & Support Activities				

The Committee is supportive of BMD's theater missile defense programs. The Committee agrees with the House Armed Services Committee that the theater missile threat deserves top priority. Therefore, the Committee generally recommends funding theater missile defense programs at the budget request level. However, in the case of the sea-based wide area defense program (formerly the Navy-upper tier program), the Committee provided a significant increase over the budget request. The Committee includes bill language to earmark \$120,000,000 only for sea-based wide area defense, an increase of \$102,250,000 over the budget request.

Airborne laser technology; theater missile defense.—The Committee recommends the transfer of the full amount requested for development of airborne laser technology, \$20,000,000, to the combined boost phase intercept [BPI] project established within the Ballistic Missile Defense Organization [BMDO] Follow-On Technologies Program element. The House fully funded the budget request in this Air Force program element.

Similarly, the Committee also transfers the full \$52,000,000 sought for an ascent phase demonstration under this theater missile defense program element to the BMDO Program. The Committee's views are further detailed in the discussion contained in the "RDT&E, defensewide" section of this report.

The Committee provides \$17,002,000 in the Air Force theater missile defense program element, adjusting the budget request downward by \$62,300,000 and providing \$10,300,000 less than the House allowance. The funding recommendation implements the following actions: (a) deletes \$52,000,000, as noted above, to effect the transfer of the Boost Phase Intercept [BPI] Program into the Ballistic Missile Defense Organization [BMDO]; (b) adds \$4,700,000 transferred to this program element from the Advanced Research Projects Agency [ARPA]; and (c) denies \$15,000,000 as discussed under the high gear entry within this section of the report.

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Regarding the boost phase intercept (BPI) program, the Committee agrees with the House Armed Services Committee report that the Department's emphasis on the program is unwarranted considering the technological challenges, the possibility of countermeasures, and possible Anti-Ballistic Missile compliance issues. Furthermore, the Committee believes that BMDO cannot afford to initiate development of another expensive technology. BMDO projects that the Corps SAM and sea-based wide area defense programs each need \$157,300,000 for development through 1999 and the BPI program needs \$372,300,000. Since BMDO also projects that its budget will be sufficient to support the acquisition of only one of these advanced capability programs, the Committee does not believe all three programs can be fully funded through development. In addition, the Bottom-Up Review emphasized Navy-upper tier rather than Corps SAM or BPI. Therefore, the Committee recommends \$17,725,000 for the BPI program, which is the same level of funding being provided to Corps SAM.

The Committee recommends \$20,500,000 for the chemical laser program, a decrease of \$57,000,000, due to budget constraints. The House Armed Services Committee provided the same level of funding for this program.

The Committee recommends an undistributed reduction to national missile defense programs of \$225,335,000 due to budget constraints and the lower priority of these programs.

The Committee is pleased with the selection of the Extended Range Interceptor (ERINT) missile as the interceptor for the PAC-3 system. The fiscal year 1995 budget request includes \$58,500,000 for risk reduction/mitigation. The PAC-3 Missile Review Board has pointed out that some level of risk remains, and that areas of concern include, but are not limited to: maneuvering re-entry vehicles; low latitude, low radar cross section cruise missiles; electronic counter measures and electronic counter-counter measures; and re-location of payload on threat vehicles.

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BALLISTIC MISSILE DEFENSE ORGANIZATION [BMDO]

The following table summarizes the Committee's funding recommendations regarding the fiscal year 1995 Ballistic Missile Defense Organization [BMDO] programs. Within a number of new, discrete program elements, the Committee provides \$2,558,855,000 for BMDO RDT&E programs as previously approved by the Senate. The Committee recommends specific reductions totaling \$301,000,000 and transfer of \$120,000,000 for the Brilliant Eyes Program to the Air Force. The combination of these actions decreases the BMDO budget request by \$421,000,000, providing an amount \$67,093,000 above the House allowance.

The recommended funds are provided within the discrete program elements already approved by the Senate. The Committee recognizes that this reallocation, based on data provided by BMDO, still includes some funds in the National Missile Defense [NMD] Program element related to theater missile defense [TMD] and other similar overlaps. The Committee directs that the fiscal year 1996 budget request be presented within the new program elements and with careful consideration given to budgeting funds in the correct program elements in accordance with the intended use of the moneys requested. The following table precisely details the Committee's realignment of funds between program elements. The Committee has deleted all funds in the budget request program elements to effect the transfer of funds into the newly established program elements.

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Accordingly, the Committee directs that the risk reduction/mitigation efforts shall focus on the important task of adapting the PAC-3 missile to the Patriot system. This will include additional component testing and while no further launches of the integrated multi-mode missile will be conducted, this will not preclude multi-mode component testing on board aircraft. These efforts will insure the deployment of a fully capable PAC-3 system in fiscal year 1998.

The theater high altitude area defense (THAAD) system has experienced a schedule slip in its flight tests. The Committee believes that additional schedule slips are possible before resolution of negotiations with Russia and the other successor states to the Anti-Ballistic Missile treaty over whether the THAAD system and testing of the system is compliant with the treaty.

The Committee agrees with the concerns of the House Armed Services Committee about the sea-based theater missile defense program. BMDO needs to reconsider using a hit-to-kill warhead rather than a blast fragmentation warhead. However, the Committee does not agree with the potential reduction to the sea-based theater missile defense program that could occur by including it in the lower tier risk reduction line. If ERINT risk reduction and Patriot demonstration/validation (the other two items included in the House Armed Services Committee's lower tier risk reduction effort) were fully funded, sea-based theater missile defense would receive less than half of its request. Therefore, the Committee recommends \$100,000,000 for sea-based theater missile defense.

The Committee recommends \$198,833,000 for research and support activities, a decrease of \$16,400,000, due to budget constraints. The House Armed Services Committee provided the same level of funding for this program.

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(in thousands of dollars)					
New program element/project	Budget request	House allowance	Committee recommendation	Committee recommendation compared to—	
				Budget request	House allowance
Patriot:					
Patriot PAC-3	69,240	69,240	69,240	-58,460	-58,460
ERINT	58,460	58,460	92,000	+92,000	+92,000
ERINT/Patriot risk reduction	217,200	217,200	217,200		
Patriot					
Subtotal	344,900	344,900	378,440	+33,540	+33,540
THAAD					
Sea-based area TBMD (Navy lower tier)	485,690	480,000	465,690	-30,000	-14,310
GBR-1	179,543	100,000	149,056	-30,487	+49,056
HAWK upgrades	173,200	173,200	193,200	+20,000	+20,000
Battle management and C4 for TMD:	26,800	26,800	26,800		
C4 and concepts ops anal	33,500	33,500	12,567	-20,933	-20,933
Subtotal	555	555	555		
Subtotal	34,055	34,055	13,172	-20,933	-20,933
National missile defense:					
Passive sensors	24,500	24,500	24,500	-10,000	-10,000
Radar	10,000	10,000	7,100		
Signal processing	7,100	7,100	29,382		
Discrimination	29,382	29,382	35,600	-13,000	-13,000
Sensor studies and experiments	48,600	48,600	13,500	-9,000	-9,000
Interceptor component technology	22,500	22,500	120,000		
RVN technology	120,000	120,000	2,500		
Computer engineering technology	2,500	2,500	500		
Communications engineering technology	500	500	3,000	-3,000	-3,000
Survivability	3,000	3,000	5,000		
Materials and structure	5,000	5,000			

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BRILLIANT EYES

As discussed elsewhere in this report under Space and Related Programs, within the RDT&E, Defense-Wide appropriation the \$120,000,000 requested for Brilliant Eyes under Ballistic Missile Defense Technology (P.E. 0604217C) has been transferred to a new program line.

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GBR	8,000	8,000	8,000	-32,062	-32,062
BM/C technology	56,500	56,500	24,438		
Engineering/integration support	18,977	18,977	18,977		
Operations interface	1,530	1,530	1,530		
Test and evaluation support	93,697	93,697	93,697		
Operational support	15,276	15,276	15,276		
Brilliant eyes	120,000				
Undistributed reduction to NMD		-225,335			+225,335
Subtotal	587,062	241,727	400,000	-187,062	+158,273
Follow-on TMD:					
Discrimination	58,119	58,119	58,119		
Sensor studies and experiments	28,500	28,500	28,500		
Interceptor component technology	5,000	5,000	5,000		
Sea-based wide area (Navy upper tier)	17,725	17,725	17,725		
Survivability	4,900	4,900	4,900		
Lethality and target hardening	32,800	32,800	32,800		
ARROW/ACES	52,400	52,400	52,400		
Corps Sam	17,725	17,725	10,000		
Engineering/integration support	45,590	45,590	22,628		
Architecture and studies	42,161	42,161	30,531		
Operations interface	2,522	2,522	2,522		
Test and evaluation Support	163,855	163,855	163,855		
Kaual test facility	7,834	7,834	(4,000)		
Operational support			(15,000)		
Arrow deployability					
Subtotal	479,131	581,405	436,814	-42,317	-144,592

Follow-on technologies:					
Advanced sensor technology	48,000	48,000	10,000		
Boost phase intercept-KE	61,100	17,725			
Chemical laser	77,500	20,500			
Combined BR Program			90,000		
ATDPC demo	12,500	12,500	12,500		

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New program element/project	Budget request	House allowance	Committee recommendation	Committee recommendation compared to—	
				Budget request	House allowance
Power and power cond	10,000	10,000	10,000		
Materials and structure	2,000	2,000	2,000		
Know science and technology (KS&T)	60,000	60,000	41,510	-18,490	-18,490
SBIR	46,460	46,460	39,896	-6,564	-6,564
Undistributed reduction—ES&T, SBIR		-33,000			+33,000
Environment, stings, and facilities	5,606	5,606	5,606		
Architecture and studies	8,000	8,000	8,000		
Intel threat development	8,050	8,050	8,050		
Countermeasures integration	18,303	18,303	18,303		
System threat	6,890	6,890	6,890		
Test and evaluation support	9,400	9,400	9,400		
Operational support	32,720	32,720	32,720		
Technology transfer	2,862	2,862	2,862		
Persian-American observational satellites (RAMOS)			(1,000)		
Subtotal	409,391	276,016	297,737	-111,654	+21,721
Management and support:					
Operational support	215,233	198,833	163,146	-52,087	-35,687
Test and evaluation support	34,850	34,850	34,850		
Subtotal	250,083	233,683	197,996	-52,087	-35,687
Grand total	2,979,855	2,491,787	2,558,855	-421,000	+67,068

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Patriot.—DOD has decided to allocate \$92,000,000 to a risk reduction program which will include efforts on the extended range interceptor [ERINT] and the Patriot multimode missile. The Committee adds \$33,540,000 to the budget request of \$58,460,000 for ERINT efforts to fund the combined risk reduction program. The funds added include \$8,500,000 only to support enhanced Army participation in the Navy mountain top demonstrations to develop improved air defenses against cruise missiles. The Army is directed to include full funding in its fiscal year 1996 budget request to continue this more meaningful participation in the joint demonstration.

Theater high altitude area defense [THAAD].—The theater high altitude area defense system will be used with the ground-based radar for theater missile defense [GBR-TMD] to provide wide area protection from theater ballistic missiles [TBM's] for our forward deployed forces. The Committee strongly endorses this program, recognizing that it responds to an urgent military requirement. However, the Committee remains concerned about the pace and concurrency within the program. The Committee denies \$30,000,000 sought to support 4 of the 10 planned flight tests scheduled in fiscal year 1995, since it is not likely that DOD can accomplish all planned tests. The total program funding level, \$465,690,000, is \$14,310,000 below the House allocation.

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Sea-based area TBMD (Navy lower tier).—The Committee provides \$149,056,000; adding \$49,056,000 to the House allowance but reducing the budget request by \$30,487,000. The Navy has initiated a cost and operational effectiveness analysis [COEA] to consider options for both the Navy upper and lower tier programs. The Committee continues to agree with DOD officials that the Navy Lower Tier Program should reduce the risk and prove the concept of sea-based theater ballistic missile defense. Thus, the Committee felt that adding funds for the Navy Upper Tier Program was not warranted. Similarly, the Committee felt that fully funding the budget request prior to completion of the COEA and further study of lethality issues was also not warranted.

The Committee recognizes that the Pacific missile range facility [PMRF] air, surface, and subsurface ranges and associated test and exercise infrastructure provide the unique capability to conduct virtually unrestricted test and evaluation in ideal conditions in support of the Defense Department, the armed services, the National Aeronautics and Space Administration, and U.S. friends and allies. Furthermore, the range is specifically equipped with the optical and radar tracking equipment, communications network, test control facilities, rocket launch infrastructure, and range support capability necessary to support tests of theater missile defense systems and concepts. Based on these unique assets and PMRF's demonstrated record of success, the Committee directs that the Pacific missile range facility [PMRF] shall be designated the primary test range for the completion of Navy lower tier and upper tier missile flight tests.

Ground based radar—theater missile defense [GBR-TMD].—The Committee has increased the budget amount, and the House allowance, for GBR-TMD by \$20,000,000 to provide a total of \$193,200,000. Termination of the national missile defense radar

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[GBR-NMD] has resulted in increased infrastructure and technology support requirements being levied on the GBR-TMD effort. To ensure the availability of radar systems to support THAAD flight tests, the Committee provides the necessary increase in program funds.

Battle management and C⁴I for TMD.—The Committee eliminates \$20,933,000 compared to the budget request and the House allowance, holding activities in this project to the fiscal year 1994 level. The recommendation provides \$12,567,000 to complete the highest priority C⁴I integration efforts.

National missile defense.—Based on information provided by BMDO, the Committee has consolidated all national missile defense [NMD] technology readiness efforts in a new program element. The Committee provides \$400,000,000, a reduction to the consolidated budget request of \$187,062,000 and an amount \$158,273,000 above the House recommendation. The Committee's actions reflect the following reductions: (a) \$10,000,000 for radar technology based on the deferral of the activities planned under the original budget request; (b) \$13,000,000 allocated to develop an infrared sensor for the airborne warning and control system [AWACS], an effort which is premature until a related development effort is allowed to proceed; (c) \$9,000,000 for pilotline experiment technology [PET] efforts which have been altered by the loss of a key participant; (d) \$3,000,000 sought for unjustified survivability efforts on the now deferred NMD system; (e) \$32,062,000 of the funds designated to continue the invalid expenditure of roughly \$60,000,000 per year on an NMD battle management/command, control, and communications [BM/C³] system, including the specific elimination of \$25,000,000 to begin development of a block 1 BM/C³ system; (f) \$120,000,000 in brilliant eyes funds which have been transferred to a new Alert, Locate, and Report [ALARM] Demonstration and Validation [Dem/Val] Program.

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Follow-on TMD.—The Committee recommends \$436,814,000 to continue projects which support the development and evaluation of emerging and future theater ballistic missile defense concepts. The approved funding level reflects a decrease of \$42,317,000 in the collected budget request for projects related to follow-on TMD and a reduction of \$144,592,000 versus the allocations made by the House. A number of adjustments are made to reflect the Committee's priorities.

First, a reduction of \$7,725,000 is proposed in the Corps Sam Program. The decrease includes \$1,900,000 to procure Government furnished equipment for a nonexistent program and \$5,825,000 for in-house and support contract efforts which were budgeted at a level exceeding the major contract value.

Second, the Committee directs that \$4,000,000 of the test and evaluation support funds shall be made available only to sustain the operations and support BMDO test activities at the Kauai test facility [KTF].

Third, a cut of \$22,962,000 in the engineering/integration support project is recommended. The budget request sought 255 percent real growth in these activities. BMDO provided no justification for such an excessive increase in support costs.

Fourth, a decrease of \$11,630,000 is proposed in the architecture and studies project. The following discrete decreases make up the total reduction: (a) \$5,000,000 from unspecified commanders in chief exercises; and (b) \$6,630,000 for functional analyses of upgraded approaches to sensors, command, control, communications, and intelligence capabilities, efforts which are premature until current baselines are established.

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Last, the Committee directs that \$52,400,000, the budget request amount, shall be made available only for the Arrow Continuation Experiments [ACES] Program. Further, the Committee directs that, within the total funds available for follow-on TMD efforts, \$15,000,000 should be allocated to ARROW.

The Committee has provided the requested amount for the TMD Critical Measurements Program II [TCMP II]. The Committee expects BMDO to execute this program as planned at the funded level.

Follow-on technologies.—The recommended funding level of \$297,737,000 for consolidated technology efforts which support current and future TMD systems represents a decrease of \$111,654,000 to the budgeted amount and an allocation of \$21,721,000 above the House. The actions comprising the Committee's recommendations are outlined in the text which follows.

First, \$38,000,000 budgeted for a new effort to develop and evaluate advanced sensor concepts is eliminated. While still refining program plans, BMDO anticipates an unsupportable \$500,000,000 program to provide a follow-on sensor for the Boost Phase Intercept [BPI] Program.

Second, the Committee has deleted \$61,100,000 for the Kinetic Energy BPI Program; \$77,500,000 for the space-based laser [SBL] BPI project; \$52,000,000 in Air Force RDT&E funds also budgeted for the Kinetic Energy BPI Program; and \$20,000,000 in Air Force RDT&E funds budgeted for the Airborne Laser BPI Program. The Committee believes that three costly BPI programs, all of which lack full out-year funding, are unaffordable. In a defense budget which already is underfunded by roughly \$20,000,000,000, the Committee believes the use of limited research and development funds to pursue all three BPI concepts is unwise.

The Committee provides \$90,000,000 in a consolidated program with the expectation that DOD will have to make difficult, but necessary, choices between competing BPI concepts. The Committee directs that BMDO provide a plan for these funds prior to obligating any amounts. The House provided \$17,725,000 for kinetic energy BPI and \$20,500,000 for the SBL BPI effort but did not consolidate BPI projects.

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HOUSE FY95 DOD APPROPRIATIONS BILL
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The Committee urges that consideration be given to a joint United States-Israel Boost Phase Intercept Program. The Committee recommends that up to \$15,000,000 of BPI funds may be used for such a joint program provided that the Secretary of Defense provides the following certifications to the congressional defense committees: (a) the United States and Israel have entered into an international agreement governing the conduct and funding of such a joint effort; and (b) the projects will have specific, direct benefits for the United States.

Third, the Innovative Science and Technology Program is allocated \$41,510,000, a reduction of \$18,490,000 compared to the budget request and the House allowance. The proposed funding level maintains these activities at the fiscal year 1994 level while acknowledging a reduced need for BMDO high-risk technology efforts.

Last, the small business innovative research project is reduced by \$6,564,000, to reflect the proportionate reduction in the overall BMDO Program budget.

The Committee also notes its concern about the contracting approach used to purchase Topaz II reactors from Russia. The DOD has accepted delivery of four reactors without adequate funds to pay for the systems. The Committee directs BMDO not to enter into any future contracts which irreversibly obligate Congress to appropriate funds.

The Committee understands that the Topaz II project may be transferred to the Defense Nuclear Agency [DNA]. In the event of this shift, the Committee directs DNA to preserve the integrity of the Topaz II Space Power Program and to provide for its continuation in the 1996 budget request.

The Committee notes the opportunities presented by the Russian-American observation satellite [RAMOS] initiative, and specifies that not less than \$1,000,000 shall be available only for this effort. This amount reflects only the minimum investment that DOD should dedicate to this program. The goals and objectives of RAMOS are consistent with the authorized purposes of the Nunn-Lugar, SERDP, and dual use technology programs. The Committee urges the Department to consider application of funds from these accounts to expand DOD participation in RAMOS for fiscal year 1995.

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Finally, the Committee understands that responsibility for the Clementine Program has been transferred to the Air Force from BMDO. The Committee directs that all unobligated funds originally allocated to the Clementine project be transferred from BMDO to the Air Force.

Management and support.—The Committee provides \$197,996,000 in a combined management and support program, decreasing the budget request by \$52,087,000. Compared to the House action on these merged programs, the Senate has deleted an additional \$35,687,000. The reduction holds the fiscal year 1995 funds for these activities to a level which matches the proportion of management and support in the fiscal year 1993 total funding level for missile defense.

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FURSE (D-OR) FLOOR AMENDMENT
JUNE 29, 1994

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Sec 8121. The total amount appropriated to or for the use of the Department of Defense by this act for research development, test and evaluation for management support is hereby reduced by \$30,000,000. provided, That the Secretary of Defense shall allocate the amount reduced in the preceding sentence and not later than December 31, 1994. report to the Senate and House Committees on Appropriations and Armed Services how this reduction was allocated among the services and Defense agencies.

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In lieu of the matter stricken and inserted by said amendment insert: : Provided, That not less than \$75,000,000 of the funds appropriated in this paragraph shall be made available only for the Sea-Based Wide Area Defense (Navy Upper-Tier) program: Provided

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The conferees agree to provide a total of \$2,800,025,000 for the Ballistic Missile Defense Program which includes \$2,526,635,000 for research, development, test and evaluation programs. This amount does not include funds for the Brilliant Eyes program, which is funded in the "RDT&E, Air Force" account. The conferees agree to provide funds for ballistic missile defense programs in fiscal year 1995, as reflected in the preceding table which made funding allocations for RDT&E, Defense-Wide

The conferees have agreed to provide \$74,000,000 for PAC-3 risk reduction/mitigation efforts, of which \$8,500,000 is only for enhanced Army participation in the Navy Mountain Top Demonstrations. The conferees further agree that the funding for risk reduction/mitigation efforts will not be used for further launches of the integrated multi-mode missile or the seeker; however, this will not preclude multi-mode component testing which is directly transferable to the PAC-3 missile selected, ERINT, on board aircraft. Finally, the conferees agree that the funds provided for the Mountain Top Demonstrations are not to be used for testing of either the multi-mode missile or seeker.

The conferees agree to provide \$75,000,000 for the Sea-Based Wide Area Defense program (Navy-Upper Tier), and direct that none of the funds may be spent on activities that prejudice the outcome of the ongoing cost and operational effectiveness analysis of Navy ballistic missile defense programs.

The conferees have provided an increase of \$3,000,000 only to pursue activities under a joint United States-Israel Boost Phase Intercept program. The conferees agree that these funds may be used once the Secretary of Defense provides the following certifications to the congressional defense committees: (a) the United States and Israel have entered into a contractual effort; and (b) the projects will have specific, direct benefits for the United States.

The conferees direct that prior to any agreement being signed or initialed in the Standing Consultative Commission regarding modifications to the 1972 Anti-Ballistic Missile Treaty that impose restrictions on the development or testing of Department of Defense theater missile defense systems, the Secretary of Defense shall notify and provide a report on such restrictions to the Committees on Armed Forces and the Committees on Appropriations of the Senate and House of Representatives.

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(b) Of the funds provided in the Department of Defense Appropriations Act, 1994 (Public Law 103-139), the Secretary of Defense shall transfer a total of \$60,000,000 to the National Aeronautics and Space Administration (NASA): Provided, That of that amount, \$25,000,000 shall be transferred from Procurement, Defense-Wide, 1994/1996, and shall only be used for LANDSAT 7: Provided further, That of that amount, \$35,000,000 shall be transferred from Research, Development, Test and Evaluation, Defense-Wide, 1994/1995, and shall only be used for Single-Stage-to-Orbit research and development at Phillips Laboratory, Albuquerque, New Mexico and, pursuant to the President's call for a supporting role for DOD in this technology, the funds shall be used in activities to support

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SEC. 8156. Of the amounts provided in title III of this Act, \$304,900,000 are permanently canceled: Provided, That the Secretary of Defense shall allocate the amount of budgetary resources canceled by this section in an equal percentage to each program, project and activity funded in title III of this Act.

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PROCUREMENT, DEFENSE-WIDE

Amendment No. 86: Appropriates \$2,088,230,000 for Procurement, Defense-Wide instead of \$3,020,616,000 as proposed by the House and \$1,894,916,000 as proposed by the Senate.

The conference agreement on items in conference is as follows:

(in thousands of dollars)

	Budget	House	Senate	Quantity	Conference
PROCUREMENT, DEFENSE-WIDE					
MAJOR EQUIPMENT, OSD/WHHS	77,780	104,280	64,280	.....	92,280
DARP	250,660	250,660	236,960	.....	335,058
SUPERCOMPUTERS	.....	130,000	.....	.....	90,000
ITEMS LESS THAN \$2 MILLION	74,010	24,010	74,010	.....	74,010
AUTOMATED INFORMATION SYSTEM EQUIPMENT	.....	.....	.....	.....	.....
MENTOR	15,402	10,402	15,402	.....	15,402
OTHER CAPITAL EQUIPMENT	28,531	23,531	28,531	.....	28,531
ITEMS LESS THAN \$2 MILLION	4,000	2,000	4,000	.....	4,000
JOINT BIOLOGICAL DEFENSE PROGRAM	.....	.....	3,000	.....	20,416
NAVY TMD	14,496	.....	14,496	.....	14,496
C-130 MODIFICATIONS	65,661	58,361	65,661	.....	58,361
MH-47/MH-60 MODIFICATIONS	10,666	5,966	10,666	.....	10,666
PC, CYCLONE CLASS	12,380	18,180	12,380	.....	34,280
CLASSIFIED PROGRAMS	379,561	374,596	488,761		443,961
MENTOR-PROTEGE PROGRAM			40,000		30,000

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RESEARCH, DEVELOPMENT, TEST AND EVALUATION, DEFENSE-WIDE
Amendment No. 99: Inserts a header "(Including Transfer of Funds)" proposed by the Senate.

Amendment No. 100: Appropriates \$9,099,387,000 instead of \$9,419,955,000 as proposed by the House and \$8,922,649,000 as proposed by the Senate.

The conference agreement on items addressed by either the House or the Senate is as follows:

(In thousands of dollars)

	Budget	House	Senate	Conference
Research Development Test & Eval Delivide:				
In-House Laboratory Independent Research	87,706	87,706	2,368	2,368
Defense Research Sciences	232,492	234,992	90,706	90,706
University Research Initiatives	20,000	12,000	227,492	253,326
Focused Research Initiatives	419,608	425,608	6,000	6,000
Computing Systems and Communications Technology	111,343	126,343	383,558	400,912
Tactical Technology	67,950	92,950	101,243	128,343
Integrated Command and Control Technology	224,828	241,828	67,950	82,950
Materials and Electronics Technology	231,978	230,978	242,853	260,853
Defense Nuclear Agency			221,978	225,978
National Missile Defense			400,000	400,000
PAC-3 Risk Reduction			74,000	74,000
Navy Upper Tier			75,000	75,000
Corps Sam			15,000	15,000
Boost Phase Intercept			297,737	225,037
Follow on Technology			436,814	381,931
Follow on TMD Systems	769,993	444,283		
Ballistic Missile Defense Technology	479,131	581,381		
Theater Missile Defenses			197,996	197,996
Management and Support	(1,071,283)	976,050		
Ter Missile Defense (DEMVAL)	173,200		193,200	173,200
Ground Based Radar	69,240		378,440	286,440
Patriot	495,690		465,690	470,000
Thaad			149,056	140,000
Navy Lower Tier	26,800		26,800	26,800
Hawk System BM/C3	33,500		13,122	21,231
BM/C3I	106,460	73,460		
Ballistic Missile Defense Technology	217,755	217,755		
Theater Missile Defenses	215,233	198,833		
Research and Support Activities				

BALLISTIC MISSILE DEFENSE ORGANIZATION (CONTINUED)

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Ballistic missile defense:	2,526,635
Patriot	286,440
Patriot PAC-3	69,240
ERINT	0
Patriot	217,200
ERINT/patriot risk reduction	74,000
THAAD	470,000
Navy lower tier	140,000
Navy upper tier	75,000
Boost phase intercept program	40,000
GBR-J	173,200
Corps SAM	15,000
HAWK upgrades	26,800
Battle Mgt and C41 for TMD	21,231
Battle Mgt and C41 for TMD	20,676
C41 & Concepts Ops Anal	555
National missile defense	400,000
Passive sensors	24,500
Radar	0
Signal processing	7,100
Discrimination	29,382
Sensor studies and experiments	45,130
Interceptor component technology	8,210
KKV technology	120,000
Computer engineering tech	2,500
Communications engineering tech	500
Survivability	0
Materials and structure	5,000
Ground-Based Radar	8,000
BM/C3 technology	24,438
Engineering/integration support	18,977
Operations interface	1,530
Test & Evaluation support	93,697
Operational support	11,036
Brilliant eyes	0
Undistributed reduction to NMD	0

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Follow-on TMD	381,931
Discrimination	58,119
Sensor studies and experiments	22,471
Interceptor component technology	0
Sea based wide area (Navy upper tier)	0
Survivability	3,000
Lethality & target hardening	15,761
ARROW/ACES	47,400
Corps SAM	0
Engineering/integration support	22,628
Architecture & studies	39,031
Operations interface	666
Test & evaluation support	163,855
Kauai test facility	4,000
Operational support	0
Arrow deployability [Note: The conferees provide a total of \$15,000,000 only for the Arrow Deployability Program.]	5,000
Follow-on Technologies	225,037
Adv sensor tech	10,000
Boost phase intercept—KE	0
Chemical laser technology	30,000
Combined BPI program	0
ATP/FC Demo	12,500
Power & power conditioning	10,000
Materials and structure	2,000
Innovative Science & Technology (IS&T)	41,510

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SBIR	Conference agreement
Undist reduction—IS&T, SBIR	39,896
Environment, siting & facilities	0
Architecture & studies	5,606
Intelligence threat development	8,000
Countermeasures integration	8,050
System threat	18,303
Test & evaluation support	6,890
Operational support	9,400
Technology transfer	16,020
Russian-American observational satellites (RAMOS)	2,862
U.S.-Israel Boost Phase Intercept	1,000
Management and support	3,000
Operational support	197,996
Test & evaluation support	163,146
	34,850

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PROCUREMENT REFORM

The conferees agree to a general provision which reduces procurement funds by \$304,900,000. The Administration proposed a budget amendment to reduce Defense Department funds by this amount in anticipation of savings resulting from procurement reform. Noting the enactment of procurement reform legislation, the conferees have agreed to reduce funds in Title III accordingly. The conferees direct that the reduction shall be made proportionately to each individual procurement program.



EARLY WARNING PROGRAMS

EARLY WARNING PROGRAMS

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SEC. 141. BALLISTIC MISSILE EARLY WARNING PROGRAMS.

(a) *RISK MITIGATION FUND.—From funds authorized by section 104 for defense-wide procurement, \$300,000,000 shall be for a satellite early-warning assurance fund. The Secretary of Defense may obligate amounts in the fund for—*

- (1) *continued procurement of Defense Support Program (DSP) satellite number 24;*
- (2) *accelerated development of the Alert, Locate, and Report Missiles (ALARM) satellite program leading to launch of the first satellite under that program no later than the first quarter of 2002;*

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SEC. 221. COMPLIANCE OF BALLISTIC MISSILE DEFENSE SYSTEMS AND COMPONENTS WITH ABM TREATY.

(a) REQUIRED COMPLIANCE REVIEW FOR BRILLIANT EYES.—The Secretary of Defense shall review the space-based, midcourse missile tracking system known as Brilliant Eyes to determine whether, and under what conditions, the development, testing, and deployment of that system in conjunction with a theater ballistic missile defense system, with a limited national missile defense system, and with both such systems, would be in compliance

EARLY WARNING PROGRAMS (CONTINUED)

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(3) *development of the Brilliant Eyes satellite sensor system;*

(4) *acquisition of up to three additional interim theater missile sensors; or*

(5) *a combination of expenditures under paragraphs (1), (2), (3), and (4).*

(b) NOTICE TO CONGRESS.—*Funds described in subsection (a) may not be obligated until after the date on which the Secretary of Defense submits to the congressional defense committees notice of the Secretary's proposed expenditures from that fund for the purposes specified in subsection (a).*

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with the ABM Treaty, including the interpretation of that treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

(b) LIMITATION.—Of the funds appropriated pursuant to the authorizations of appropriations in section 201 that are made available for the Brilliant Eyes program, not more than \$50,000,000 may be obligated until the Secretary of Defense submits to the appropriate congressional committees a report on the compliance of the Brilliant Eyes program with the ABM Treaty.

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Ballistic missile early warning

The budget request contained \$364.0 million for procurement of one Defense Support Program (DSP) satellite for fiscal year 1995; \$76.4 million for DSP research and development; \$150 million in research and development on the new ALARM (Alert, Locate, and Report Missiles) early warning satellite program; and \$120 million for the Brilliant Eyes sensor satellite program.

The committee supports the early warning mission and believes that neither Congress nor the Department should take major risks in this area. The committee notes the Department's current ALARM plan assumes the program will not experience any delays. The committee is uneasy over the Department's confidence in the program timetables because even low-risk programs often experience delays. Furthermore, it does not appear that there are any acceptable backup options that would help work around ALARM delays.

The committee believes that a mission as important as ballistic missile early warning has no place for such risks. The committee cannot support a strategy that would have serious implications for early warning coverage if ALARM were even modestly delayed. The committee is mindful that the Bottom-Up Review's early warning technical support group found that there "is a high probability of a gap in Space Based Infrared coverage during system transition without Block 23 (DSP 23, 24, and 25)." The Department, however, plans to procure DSP 23 only. The committee received testimony that current U.S. abilities to detect theater ballistic missile launches and alert are inadequate. In sum, the committee concludes that the Department's early warning plans need greater assurance of success.

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Missile warning and tracking

The National Defense Authorization Act for Fiscal Year 1994 combined the requests for several ballistic missile warning and tracking programs together, reduced the requested amount, and directed the Secretary of Defense to decide which programs merited investment. The Secretary responded by limiting additional defense support program (DSP) satellite procurement to one satellite; canceling the follow-on early warning system (FEWS); initiating a cheaper alternative to FEWS, called the alert, locate, and report missile (ALARM) program; and reduced the scope of the Brilliant Eyes mid-course tracking program.

The committee endorses these measures, but believes that problems remain in DOD missile warning programs.

According to DOD, the FEWS program was terminated because it was too expensive and the requirements for the system were excessive. However, the life-cycle cost for ALARM is estimated to be almost identical to that of the FEWS program. The explanation provided by the Air Force is that the ALARM system initially will be less capable than FEWS, but will be improved in stages to achieve virtually the same set of performance specifications that were established for the FEWS system. The initial design of ALARM will be capable of detecting dim, short-burn missiles over enough area at a given time to support the two major regional contingency strategy. The objective design, in contrast, will be able to provide such capabilities worldwide. The difference in life-cycle costs between the initial and objective systems is estimated to be on the order of three-to-four billion dollars. The missions that the objective system will be able to perform that the initial design would not are technical intelligence collection and missile proliferation monitoring.

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Accordingly, the committee recommends authorization of the full \$364.0 million for procurement of DSP; \$56.4 million for DSP research and development; and \$150 million for research and development for the new ALARM program. In addition, the committee directs the Secretary of Defense to plan to deploy up to three extra theater missile sensors of the type selected for the ALARM quick reaction experiment, for a total of up to four. This will ensure that the United States has a robust theater missile detection capability sooner than currently planned.

Finally, the committee recommends authorization of an additional \$300 million for a satellite early warning assurance fund. After the Secretary notifies the congressional defense committees of the selections, the Secretary may obligate these funds for either maintaining the option to procure DSP satellite number 24; or for accelerating development of the ALARM program leading to launch of the first ALARM satellite no later than the first quarter of 2002; or for continuing development of Brilliant Eyes; or for acquiring the three extra theater missile sensors; or for some combination of the four as the Secretary deems advisable.

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Technical intelligence collection has previously been the responsibility of the national foreign intelligence program (NFIP). This mission was transferred to the Air Force when requirements were established for the FEWS system. The Secretary of Defense and the Director of Central Intelligence (DCI) must consider whether this mission is worth billions of dollars, whether cheaper alternatives are available to satisfy the requirement, and whether the DCI or the Secretary of Defense should be responsible for the mission. The committee directs the Secretary and the DCI to resolve this issue and to incorporate the results in the fiscal years 1996-2001 Future Years Defense Program and fiscal year 1996 budget request.

Senior Department of Defense officials have testified that there is an acceptably small risk of a gap in missile warning coverage of a major regional contingency during the transition from DSP to the ALARM system. However, this assessment does not address shortfalls in strategic missile warning and technical intelligence collection, and assumes the availability of classified capabilities for regional contingencies that are not funded. The shortfall could be in excess of \$300.0 million.

Meanwhile, DOD intends to spend over \$500 million on a Brilliant Eyes (BE) demonstration even though there are no plans to deploy any national missile defense capabilities, and no plans to incorporate BE into theater missile defenses. DOD also intends to spend \$150.0 million on a technology demonstration for ALARM that at best could affect the design of the first block change for ALARM, which is not scheduled for launch for another 15 years. The issue is whether these funds would be better spent fixing the serious funding shortfalls outlined above or accelerating the ALARM program.

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As noted above, the committee is in general agreement with the Bottom-Up Review's (BUR) ballistic missile defense priorities. The BUR recommends expenditures for national missile defense of \$400 million per year, and \$200 million per year for the Brilliant Eyes sensor program.

The committee recommends denying the \$120 million request (within the BMDO) for Brilliant Eyes. However, the committee has recommended, in another portion of the bill, \$300 million for the satellite early warning assurance fund, of which \$120 million was derived from the Brilliant Eyes request. The committee recommends giving the BMDO the discretion to fund Brilliant Eyes, and the other alternatives described above, from this account. The committee has recommended authorization of \$400 million in other national missile defense programs as called for by the Bottom-Up Review.

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In addition, the committee notes that Congress transferred the Brilliant Eyes program to the Air Force last year because of concerns that the Ballistic Missile Defense Organization (BMDO) and the Air Force were not taking the necessary steps to ensure that BE and the next-generation missile warning satellites were integrated and complementary. The Department of Defense, however, now proposes transferring BE back to BMDO without addressing the problem identified by Congress.

Accordingly, the committee recommends:

- (1) reducing the amount requested for ALARM by \$31.0 million, which is the amount requested for the technology demonstration program outlined above;
- (2) transferring the BE program to the Air Force, placing the funds in PE 603441F, and giving the Secretary of Defense the latitude to use the funds to correct technical intelligence and warning shortfalls, to accelerate ALARM, to continue a BE program geared to theater defense, or to continue DSP procurement; and
- (3) requiring the Secretary of Defense to report to the congressional defense and intelligence committees by April 1, 1995, on his views on all the issues raised in this report.

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Last year, the committee required the Administration to provide preliminary reviews of the compliance with the ABM Treaty of all near-term, well-defined theater missile defense (TMD) systems, in addition to the proposed Brilliant Eyes (BE) space-based sensor system. The committee has carefully reviewed the compliance reports and commends the Administration for the timeliness and usefulness of all but one of these reports. The committee finds the compliance report on the BE sensor system unacceptable, as it fails to deal with the set of questions posed in section 234 of the National Defense Authorization Act for Fiscal Year 1994. The report submitted by the Administration on the BE sensor system failed to address the question of whether BE, as planned, would be compliant with, or could be made to be compliant with, either an ABM Treaty-compliant national missile defense (NMD) system, or an ABM Treaty-compliant TMD system, and whether its status as a legally-deployed component of an ABM Treaty-compliant TMD system would be jeopardized if the United States subsequently undertook to develop and deploy an NMD system that also used BE tracking data.

There appears to be no compliance issue with the use of space-based optical data, such as is provided today by defense support program satellites, nor have objections been raised to proposed follow-on systems (FEWS and ALARM). In the Missile Defense Act of 1991, the Congress declared the proposed ground-launched surveillance and tracking system (GSTS) compliant. The BE system appears to be analogous to these systems, relying on telescopic viewing of optical phenomena. Thus, it would appear that, if data from Brilliant Eyes satellites were transmitted, processed, and disseminated in similar fashion to data from existing optical systems, a determination of compliance should be straightforward.

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The report submitted by the Administration avoided these (admittedly complex) questions, arguing instead that the first "two or three" developmental BE satellites would be so lacking in capability as to raise no compliance issue, and declining to formulate an opinion regarding a more robust constellation. The committee cannot accept this answer as a basis for continued substantial funding of the BE program. The Administration is already embarked on negotiations with Russia and many of the successor states to the former Soviet Union to clarify the boundaries on compliant TMD systems. The Congress has been urging the Administration since the passage of the Missile Defense Act of 1991 to undertake similar negotiations—if necessary—to clarify the permitted uses of space-based sensors. Thus, the committee has no choice other than to insist that the Administration determine whether a BE satellite constellation would be fully, partially, or not at all compliant with the current interpretation of the ABM Treaty if used in conjunction with a TMD system, an NMD system, and both systems. To encourage prompt reporting, the committee further limits the obligation of funds for BE to not more than \$50.0 million until the required compliance report is submitted.

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(b) LIMITATION RELATING TO BRILLIANT EYES.—Of the funds appropriated pursuant to the authorizations of appropriations in section 201 that are made available for the space-based, midcourse missile tracking system known as the Brilliant Eyes program, not more than \$80,000,000 may be obligated until the Secretary of Defense submits to the appropriate congressional committees a report on the compliance of that program with the ABM Treaty, as determined under the compliance review conducted pursuant to subsection (c).

(c) COMPLIANCE REVIEW FOR BRILLIANT EYES.—The Secretary of Defense shall review the Brilliant Eyes program to determine whether, and under what conditions, the development, testing, and deployment of the Brilliant Eyes missile tracking system in conjunction with a theater ballistic missile defense system, with a limited national missile defense system, and with both such systems, would be in compliance with the ABM Treaty, including the interpretation of that treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

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COMPLIANCE REVIEWS

The conferees agree to a provision that would require compliance reviews for both the Brilliant Eyes program and the Navy upper tier program. Guidance for the Brilliant Eyes review is contained in the Senate report (S. Rept. 103-282); for the Navy upper tier program, the conferees require a review of the compliance of the LEAP configuration both as currently planned, and if the kick-stage motor were restricted to limit LEAP velocity to three kilometers per second.

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Missile early warning and tracking

The budget request contained:

(1) \$150.0 million for development of the alert, locate, and report missiles (ALARM) early warning satellite, the follow-on to the defense support program (DSP) system. Of this amount, \$31.0 million was requested for a technology demonstration program;

(2) \$120.0 million within the Ballistic Missile Defense Organization for development and demonstration of Brilliant Eyes (BE); and

(3) \$76.4 million for further development of DSP, including new ground processing capabilities.

The Senate bill would deny funding for the ALARM technology demonstration. It would also transfer the BE program to the Air Force, and allow the Secretary of Defense to use the funds to correct technical intelligence and warning shortfalls, accelerate ALARM, continue a BE program focused on theater defense, or continue DSP procurement.

The House amendment contained a provision (sec. 141) that would provide \$300.0 million for ballistic missile early warning risk mitigation. These funds could be used for continued procurement of defense support program satellite number 24, accelerated development of ALARM leading to launch of the first satellite no later than the first quarter of 2002, development of BE, acquisition of three additional interim theater missile sensors, or a combination of the above. The House amendment also would reduce the requested amount for DSP RDT&E by \$20.0 million.

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The House recedes.

The Department of Defense has undertaken a comprehensive review of all space-based infrared (SBIR) requirements and programs for ballistic missile detection, tracking, technical intelligence, and other ancillary missions. The conferees applaud this effort, but not that Congress has directed such an assessment every year for at least the last three years. The conferees also not that this new review follows a major assessment conducted just a year ago in the Bottom-Up Review (BUR). The BUR resulted in decisions to terminate one program, develop a DSP follow-on, and initiate another (ALARM); to terminate further procurement of DSP, and to scale back the BE program substantially.

The BUR process completely upended the fiscal year 1994 budget request, but Congress patiently provided wide latitude to the Secretary of Defense to allocate funds once the BUR was completed. Now Congress is once again in the same position. The conferees intend to provide DOD latitude in this critical area in fiscal year 1995, but their patience is wearing thin. Moreover, if the Department makes major changes in the current program, the planned deployment date of a follow-on capability could be jeopardized.

The conferees deny the \$31.0 million requested for the ALARM technology demonstration program. The conferees agree to apply these funds, and an additional \$19.0 million, to accelerate the advanced tactical warning and attack assessment system by two years. The conferees agree to authorize the requested amount for BE, but shift the program to the defense agencies, RDT&E account. The Secretary of Defense should determine the appropriate management organization for this program based on the ongoing review and notify the congressional defense committees within 45 days after the date of enactment of this act.

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In addition, in light of the ongoing review of SBIR programs within the Department, and the potential for changes to existing programs as a result of the study, the conferees direct the Secretary to promptly report to the congressional defense committees on the results of the study, together with any recommended programmatic, budgetary, and schedule changes. Should the Secretary determine that modifications to existing programs are necessary, the conferees would consider a reprogramming request to implement any such changes.

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Early Warning Satellite Systems: The bill includes a \$180 million increase above the budget to accelerate the new ALARM missile early warning satellite system. This will permit early fielding of an improved capability to detect the firing of mobile theater ballistic missiles.

DoD Space Programs: The bill strengthens DoD space programs by adding \$140 million above the budget for upgrading launch vehicles. The bill also centralizes DoD-wide space procurement and research and development funding, and terminates the Titan IV program after completion of the current contract.

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BALLISTIC MISSILE EARLY WARNING SATELLITE PROGRAMS

The Committee is concerned about the continuing lack of firm direction in the Department of Defense's [DOD] efforts to upgrade and modernize the Nation's ballistic missile early warning satellite capability. To date, the Pentagon has spent billions of dollars on several different programs, yet the operational user is not one step closer to obtaining a new capability. The matter has been reviewed by multiple panels, advisory boards, and Pentagon committees. Yet, even now, a new Defense Department group has been formed to once again evaluate options and chart a course to develop a new family of early warning satellites.

Based on DOD's experience with the Defense Support Program [DSP], a geosynchronous satellite network has often been the only approach considered for enhancing our early warning capability. Such a network makes it possible for a relatively small number of satellites to observe virtually the entire Earth. The geostationary orbit avoids pointing, tracking, and motion compensation problems inherent in a low-Earth-orbit satellite constellation. However, these satellites are large and expensive, with associated high launch costs.

With each passing year, it becomes more clear that DOD can only afford one early warning satellite system. However, the Defense Department continues to pursue three related projects to develop this new systems: (1) ALARM; (2) ALARM technology demonstrations; and (3) brilliant eyes [BE]. The Alert Locate and Report [ALARM] Program reflects a significant compromise in the capabilities planned for the follow-on early warning system [FEWS], primarily because of cost.

The new study specifically includes an evaluation of the brilliant eyes [BE] distributed satellite system. To some extent, many of the

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SPACE AND RELATED PROGRAMS

ORGANIZATION AND MANAGEMENT

Introduction

In fiscal year 1995 the Department of Defense and the intelligence community will spend \$13.5 billion for space programs. Even with the projected decline in overall national security spending, it is doubtful that space programs will decrease below that amount for the foreseeable future. As discussed last year, the Committee has become increasingly concerned that the basic processes which govern military and intelligence space programs have become ineffective and costly. While the individual programs are, in most instances, well designed and managed, there is inadequate coordination between programs, poor definition of greatly changed requirements, insufficient responsiveness to the users of space systems, inattention to potential cost savings in a fiscally constrained environment, and a lack of clearly defined responsibilities for space programs at the senior levels in the Pentagon.

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past reviews were flawed because they failed to consider BE or some derivative of brilliant eyes.

A low-Earth-orbit satellite can track missiles with greater precision simply because the satellite and missile are much closer. According to DOD studies, it may be possible to modify brilliant eyes satellites to perform both the early warning and the missile tracking functions necessary to support a national missile defense. While a brilliant eyes-like satellite could be much cheaper, many more of these satellites would be required compared to a DSP-like constellation. Nevertheless, the total system life cycle cost of BE may still be less expensive. BE also raises Anti-Ballistic Missile [ABM] Treaty compliance questions which must be resolved later in its development cycle.

In the end, DOD has been concerned about the risk of a relying on a network of low-Earth-orbit warning satellites. Even the recent DOD space launch study largely neglected the potential effects on the space launch infrastructure of emerging distributed satellite network concepts. Nonetheless, the commercial world appears to be ready to move forward as private funds are being devoted to several new satellite communications networks relying on distributed low-Earth-orbit satellites.

Having considered these and many other aspects of this debate, the Committee has developed the following recommendation which adopt portions of the Pentagon's current early warning strategy while making adjustments that would benefit the Defense Department and the Nation.

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Budget Request

In fiscal year 1995, the Department of Defense budget—which includes the requests of both the military and the intelligence communities—totals approximately \$13.5 billion for space programs. This represents 5.4 percent of the total requested budget authority of \$252.2 billion. As a point of comparison, the fiscal year 1995 NASA budget request totals \$14.3 billion, including its non-space programs. Thus, the annual Defense appropriations bill provides at least half of all funds for federal space programs.

Over the next 5 years, DOD plans to spend \$70.7 billion on military and intelligence space programs and activities. Of that amount, over 80 percent will be managed by the Air Force and over 70 percent will be for investment.

Policy

Last year the Committee concluded that there was no clearly defined U.S. national space policy. Despite the passage of another year, no such policy has yet emerged. The Committee also cited several exhaustive studies which had been performed in recent years to address various aspects of space policy. Since that time, DOD has completed its Space Launch Modernization Plan and the Office of Science and Technology Policy is completing its Launch Policy Study. Although these two new studies document yet again the same problems, there appears to be no specific policy direction on the horizon for space launch. Moreover, the fundamental management approach still appears to be to address each space function or activity piecemeal. For example, the OSTP study will essentially propose to let DOD and NASA continue doing what they currently do, and simply encourage each agency to cooperate where possible. DOD will continue to look for ways to improve the robustness of existing expendable launch vehicles, with no direction regarding what to do with the excessively expensive Titan IV.

As part of the ALARM Program, DOD proposed a technology demonstration effort to fly one or two experiments which would allow evaluation of new sensor technologies. However, the program is underfunded to demonstrate more than one new technology, and its schedules prevent the demonstration experiments from realistically supporting the ALARM Program. Drawing on DOD's concept, the Committee proposes an ALARM Demonstration/Validation Prototyping Program which would lead to a fly-off between competing concepts. The Committee directs DOD to fly two individual satellites, or a similar number of prototype, geosynchronous early warning sensors, and associated hardware aboard existing satellites. In parallel, the Committee directs that the Brilliant Eyes Program be accelerated moderately to permit prototype satellite flight tests on the same schedule as the revised ALARM Demon/Val Program.

It is the expectation of the Committee that these experiments be launched around the fourth quarter of fiscal year 1997, roughly the same schedules previously planned for the technology demonstrations supporting ALARM. Under this plan, DOD could make an informed decision based on the results of all of these prototype system tests. The Defense Department should then be able to proceed with a lower risk Engineering and Manufacturing Development [EMD] Program, with the first satellite being delivered in time to avoid further DSP purchases beyond satellite 23.

To achieve these goals, the Committee has provided \$62,500,000 for the revised ALARM Demonstration/Validation Prototyping Program and \$150,000,000 for the Brilliant Eyes Program. The Committee directs that no more than one-half of these funds may be ob-

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The Committee continues to believe that there is a need for a national space vision to: (1) define the military, intelligence, civil, and commercial space sector objectives; (2) direct a clear course of action for addressing each sector's mission needs and operational requirements; (3) establish a mechanism for converging each sector's approach to satisfying its technical and funding requirements; and (4) identify potential financial, technological, and societal benefits to be achieved.

Last year, the Committee expressed concern that there was insufficient coordination of space programs at the policymaking level in the office of the Secretary of Defense. Although the Assistant Secretary of Defense (ASD) for International Security Policy (ISP) has since been designated to fill this policy vacuum, little real progress has been made. The Committee strongly believes that a separate, permanent, civilian Deputy Assistant Secretary of Defense for Space Programs should be created within the office of the ASD (ISP) and is, therefore, directing that such a position be established.

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ligated prior to the Congress receiving a plan outlining the detailed implementation of this Enhanced Competition Development Program. Furthermore, the Committee directs that the full amount appropriated for the ALARM Program may not be obligated until the full amount of funds are obligated for the brilliant eyes prototyping effort. The Committee has provided no funds for duplicative ALARM generic technology development efforts.

Summary table (In thousands of dollars)

	Committee recommendation
Advanced space-based TW/AA (dem val)	
Brilliant eyes	\$222,500
ALARM dem/val prototyping	(62,000)
Technology demos/quick reaction capability [QRC]	(150,000)
Brilliant eyes	(10,500)
System Program Office/FFRDC support	

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Historically, the military services have inadequately funded space programs that are not service-peculiar, but have a broader defense-wide mission. One solution would be to create a separate \$13.5 billion appropriation. However, the Committee has, pending further consideration, decided not to pursue this option. Instead, as an interim step, the Committee has centralized into either Procurement, Defense-wide or RDT&E, Defense-wide, as appropriate, funding for the major space programs which are service and non-specific. Included are all launch vehicles, and satellites and ground control systems for such satellites as MILSTAR, ALARM and DSCS. The Committee also directs that as a part of the fiscal year 1996 request such centralized funding be continued. The only space related programs that should remain in a specific service procurement or R&D account are those that are uniquely related to that specific service, such as terminals, and that do not impact on the viability of the basic system itself.

Acquisition

There are four major U.S. space sectors. The 1992 "Wilkening" report, sponsored by the now defunct National Space Council, concluded that the military, intelligence, civil, and commercial sectors each has its own institutional culture which encourages overlap and discourages cooperation. Addressing only the military and intelligence sectors funded in this bill, there are six different organizations responsible for acquisition—the Air Force, Army, Navy, National Reconnaissance Office, Ballistic Missile Defense Organization, and Advanced Research Projects Agency. A 1993 Air Force report concluded that these multiple space acquisition agencies create: fragmented responsibilities; duplicate facilities, staffs, and infrastructure; deficiencies in achieving economies of scale, optimizing existing capabilities, or focusing on validated operational requirements; and a lack of interoperability which complicates joint and combined military operations. The Air Force has also concluded that the cold war made space systems expensive, resulting in a crises-driven acquisition process. Because the cold war procurement rationale no longer applies, it is now time to look at today's threat and space systems in context and proceed on a more ordered and efficient path.

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The Committee's actions reflect the following reductions: (a) \$10,000,000 for radar technology based on the deferral of the activities planned under the original budget request; (b) \$13,000,000 allocated to develop an infrared sensor for the airborne warning and control system [AWACS], an effort which is premature until a related development effort is allowed to proceed; (c) \$9,000,000 for pilotline experiment technology [PET] efforts which have been altered by the loss of a key participant; (d) \$3,000,000 sought for unjustified survivability efforts on the now deferred NMD system; (e) \$32,062,000 of the funds designated to continue the invalid expenditure of roughly \$60,000,000 per year on an NMD battle management/command, control, and communications [BM/C³] system, including the specific elimination of \$25,000,000 to begin development of a block 1 BM/C³ system; (f) \$120,000,000 in brilliant eyes funds which have been transferred to a new Alert, Locate, and Report [ALARM] Demonstration and Validation [Dem/Val] Program.

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As indicated by the Committee last year, a single integrated space investment strategy is needed. If that cannot be accomplished in a timely fashion for the entire federal government, it should be possible for the Secretary of Defense and the Director of Central Intelligence to jointly prepare and implement such a plan for the military and intelligence sectors alone. To encourage such cooperation, the National Defense Authorization Act for Fiscal Year 1994 required the Secretary of Defense to submit a space investment strategy to the Congress aimed at reducing costs and increasing efficiencies. The report is not yet complete. In addition, in the fiscal year 1994 Defense Appropriations Act, this Committee required a detailed 5-year plan by February of 1994 on needed organizational changes. This study is not scheduled to be completed until August of 1994.

The plethora of studies drive toward five principal organizational changes that could be made to fix the space acquisition problem.

- Place acquisition responsibility entirely with the Air Force; but through joint program offices;
- Create a space systems procurement executive office within OSD supported by each service;
- Create a quasi-independent space corps within the Air Force to separately acquire and operate space systems; and
- Create a defense space agency to acquire and manage space systems.

Each of these proposals has its strengths and weaknesses—as well as its proponents and opponents. There is, however, a single theme which is common to these proposals. That is, better central oversight is needed to halt the current fragmented planning, management and execution of space acquisition programs.

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The Committee is dismayed at the seeming inability of the Department of Defense not only to correct, but even to produce directed Congressional studies addressing the well-documented inefficiencies of DOD and intelligence space acquisition. Nevertheless, DOD and the intelligence community continue to request the appropriation of billions of dollars of funds annually.

The Committee is no longer willing to wait idly for solutions that may well never be proposed. As discussed previously, the Committee has centralized all space acquisition funding into two accounts: Procurement, Defense-Wide, and Research, Development, Test and Evaluation, Defense-Wide. It is anticipated that such centralization of funding under the control of the Under Secretary of Defense for Acquisition will permit that office to play a more active role in resource allocation and program oversight across service and organizational lines without disrupting the existing contracting process.

The Committee is also directing that all DOD space system acquisitions be placed under the management of a new Procurement Executive Officer (PEO) within the Office of the Under Secretary of Defense for Acquisition who will be supported by the existing military service and defense agency acquisition organizations. It is emphasized that this central PEO will be responsible for resolution of joint requirements, resource management, and program decision making. It will not be responsible for awarding contracts; that will be left to the military service or organization designated by the PEO to be responsible for contract award and management for each space system acquisition.

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Operations

Space systems are used for information warfare by multiple and varied users. Most space systems provide capabilities for joint military operations or national purposes. Commanders of joint and combined military operations are expected to rely increasingly on information from space assets in future regional conflicts, particularly given the military experience with such information during the Persian Gulf War. For example, DOD's total satellite communication requirements for 1997 (measured in millions of bits per second of throughput) are divided as follows:

	Percent
National authorities and Commanders-in-Chief	50
DOD agencies	31
Military services	12
Non-DOD agencies	7
Total	100

The Air Force dominates the military space budget, yet generates little of the requirement. Nevertheless, its space budget competes with other service-specific Air Force requirements such as aircraft and missiles. This management structure does not appear to be in the best interest of the multiple and varied space users. An example of less than a total commitment to space is the Air Force leadership's repeated attempts not to fund the MILSTAR satellite development and acquisition.

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Not only does the Air Force dominate DOD space acquisition programs in terms of dollars, it also dominates space operations in terms of dedicated civilian and military personnel.

	Number of personnel		Total
	Military	Civilian	
U.S. Space Command	443	128	571
Air Force Space Command ¹	22,737	17,371	40,108
Naval Space Command	249	245	494
Army Space Command	401	89	490

¹ Includes approximately 10,400 military and 1,300 civilian personnel to support the Minuteman and Peacekeeper programs for U.S. Strategic Command.

The Committee believes that space applications are inherently joint and that space information is crucial to all warfighters. The Committee is concerned about the U.S. Space Command's finding in its roles and missions study regarding the lack of a joint effort in the application of space systems to support warfighters. This became evident during the Persian Gulf War where space support was provided primarily on an ad hoc basis. No single organization had the assigned responsibility to bring space expertise to the theater commander, requiring multiple requests to different organizations in the U.S. for information.

According to the General Accounting Office, significant efficiencies could result from consolidating certain space education and training programs. In addition, a January 1994 study by the U.S. Space Command discussed inadequate joint training of space applications. Despite the U.S. Space Command's theater support teams, the Air Force Space Command's Space Warfare Center, the Naval Space Command's space support teams, and the Army Space Command's program to demonstrate and exploit space systems, there is:

- a lack of coordination among the commands;
- little direction from U.S. Space Command to ensure consistent training across all services and commands;
- no plan to establish a joint training effort or a joint space warfare center for exploiting space products by the warfighters; and
- the potential for redundancies among the four space commands.

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Considering that military space systems are primarily used for joint purposes, the Secretary of Defense is directed to ensure that the U.S. Space Command creates a Joint Space Warfare Center in lieu of the Air Force Space Warfare Center, and that CINCSpace take the lead in providing space applications, education and training to the warfighting forces, including the study of tactics, techniques, and procedures, including the development of annual JCS exercises designed to emphasize the uses of military and intelligence space-based assets. In addition, to ensure that space education and training is indeed joint, the director of the U.S. Space Command Joint Warfare Center should be appointed from a different military service from that of the CINC making the selection. In addition, it is expected that over the long term, any "J/G-3", that is, joint or service director of operations, should be expected to have attended the Joint Space Warfare Center prior to his or her appointment.

LAUNCH VEHICLES

Introduction

The U.S. government, primarily the Air Force, has 125 medium and heavy lift launch vehicles currently under contract as follows:

- 61 Delta II medium lift vehicles for various Air Force and NASA satellites;
- 9 Atlas II medium lift vehicles for the Defense Satellite Communications system;
- 14 Titan II medium lift vehicles for the Defense Meteorological Satellite Program; and
- 41 Titan IV heavy lift vehicles for the Defense Support Program satellite, MILSTAR, and classified payloads.

To date, nearly 50 of the 125 have been launched.

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The Air Force Space Command, with input from other agencies, prepares the National Mission Model which schedules NRO, Air Force, Navy, BMDO, NASA, and U.S. commercial launches. While the Air Force purchases launch vehicles based upon the launch dates identified in the mission model, changes in these dates disrupt vehicle acquisition schedules and increase costs. For example, Atlas II and Titan IV costs are expected to be adversely affected by launch schedule stretchouts of 3 and 9 years, respectively. In the case of Titan IV, approximately 80 percent of the \$10 billion cost increase recently reported by DOD is related to the stretchout. The GAO has also found that Atlas may also experience a significant cost increase due to slow downs or adjustments in the production schedule, storage costs, additional tests for vehicle reliability, and additional launch service costs. It is clear that if DOD cannot establish more reliable launch schedules, it will continue to experience significant vehicle cost growth. A new launch system with standard interfaces and modular designs is one possible solution to coping with greater uncertainty in the launch schedules.

Currently, no overall space systems model exists to aid decision makers in assessing requirements, capabilities, and effectiveness of space assets as a total system. Instead, current planning is based on individual elements such as vehicles, satellites, launch facilities, and satellite control. DOD needs to focus on the overall contribu-

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tion of space systems to the warfighter, instead of making decisions on individual system objectives that may suboptimize overall space objectives.

According to the GAO, the potential commercial market for medium-size launch vehicles is, and will continue to be, small. The two U.S. contractors that produce Delta and Atlas compete with foreign organizations for commercial launches which are projected to be approximately 17 per year. There is no driving requirement in the commercial community for a new launch vehicle. To the GAO, it appears that U.S. manufacturers will keep their market share in medium launch vehicles regardless of whether the Department of Defense finances an upgrade program. Future investment in upgrading or modernizing U.S. launch vehicles should be based upon national objectives rather than economic payback from the commercial market.

There is currently no coherent U.S. policy on the use of Russian launch vehicle technology. Russian launch systems and technology (Proton, Energia, and Zenit vehicles, and advanced engines) are available to the U.S. to improve the current launch fleet. However, several problems need to be overcome, including:

- Security and integration of U.S. payloads;
- Adequacy of Russian facilities and logistics support;
- Impact to the U.S. industrial base;
- Stability of Russian economies and politics;
- Language barriers; and
- Russian incentive to maintain any business relationship.

The Secretary of Defense is directed to provide no later than February 1, 1995, a policy statement for the use of Russian launch vehicle technology which provides U.S. commercial firms detailed guidance on the acceptability to DOD of such factors as: use of imported technology on critical DOD systems, licensing of technology to U.S. firms, and co-production agreements.

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Reusable Launch Vehicles

Conceptually, a Single Stage to Orbit (SSTO) launch vehicle would be reusable, cheap to operate, and be ready for a launch in only a matter of days after returning from space. Such a vehicle is generally referred to as "leap frog" technology because the next evolutionary step in space launch vehicle development would logically be a new—and more traditional—expendable vehicle, not a reusable vehicle. The Strategic Defense Initiative Organization (SDIO), now called Ballistic Missile Defense Organization (BMDO), built and tested a sub-scale, suborbital model of an SSTO vehicle. The flight tests will be completed during fiscal year 1994 and the total costs of the program will be approximately \$70 million. The fiscal year 1994 budget requested no funds for SSTO or reusable technology. However, the Congress appropriated \$40 million to continue development of an SSTO launch vehicle.

Virtually every launch vehicle study that has looked at the SSTO proposal concludes that it is unaffordable and technologically unavailable in the near future. Cost estimates for the full development program range from \$10 billion to \$40 billion to produce the first vehicle. The White House is expected to announce shortly that NASA, not DOD, will be responsible for developing the SSTO launch vehicle. It will not be DOD's responsibility to build an SSTO vehicle, nor would it be affordable for DOD to do so. However, there is value in DOD funding a few propulsion and materials technology development programs to determine the extent to which reusable launch vehicle components could be used to lower the cost of DOD's expendable launch vehicle fleet.

The House-passed authorization bill included \$100 million above the budget in fiscal year 1995 for SSTO development and reusable launch vehicle technology. The Committee has provided \$50 million above the budget in fiscal year 1995 for DOD to fund selected reusable launch vehicle technologies. DOD will also be expected to release the \$40 million already provided in fiscal year 1994. However, if responsibility for SSTO development is assigned to NASA, no funds should be provided to DOD for this effort.

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SATELLITES

Early Warning Satellite Programs

For the past several years, the Department of Defense has been in the midst of initiating a new architecture for infra-red satellites capable of providing early warning of ballistic missile launches. With the lessons that have been learned from the Persian Gulf war, implementing this new architecture has become a high priority of U.S. military commanders-in-chief. As addressed below, the Committee recommends the following amounts for early warning satellite programs:

(In millions of dollars)

	Request	Committee
Brilliant Eyes:		
RT&E, Defense (BMD0)	\$120.0	0
RT&E, Defense (Air Force)	0	120.0
DSP 23 Procurement:		
Msl Proc, AF (Air Force)	364.0	0
Proc, Defense (Air Force)	0	364.0
DSP 24 Procurement	0	0
ALARM:		
RT&E, AF (Air Force)	150.0	330.0
Total	634.0	814.0

ALARM Program Acceleration. The fiscal year 1995 budget includes \$150 million to begin development of the ALARM satellite. The Committee is convinced that acceleration of the ALARM program is critical to the national security of the United States. The Air Force has indicated that there are no technical or programmatic risks to accelerating the program. As a result, a total

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of \$330,000,000, an increase of \$180,000,000, has been provided to enable the Air Force to accelerate the first launch. Because of the national importance of this program, the Secretary of Defense is directed to: (1) ensure that the program is fully funded in the out-years, (2) complete the Engineering and Manufacturing Development (EMD) contract down-select by March 31, 1996, and (3) work toward an ALARM first launch capability of no later than the year 2000.

ALARM Technology Demonstration Program. Included in the ALARM request is \$30 million to begin a separate technology demonstration which is ultimately projected to cost over \$150 million, has not been justified as producing information required to proceed with the ALARM program, and would not produce information in time to influence design of the ALARM payload. The Committee, therefore, explicitly directs that no funds are available for the technology demonstration program as originally proposed. However, the Air Force may conduct any technology demonstrations specifically necessary to support design of the first ALARM satellite. Without the prior approval of the Congressional defense committees, such demonstrations may either be conducted on an airborne platform or, if conducted in space, may only be performed as a part of an already planned infra-red payload such as the BMDO Miniature Sensor Technology Integration (MSTI) program.

Defense Support Program. The Air Force requested a total of \$364.0 million to continue procurement of DSP satellite 23. The Committee has provided the full amount.

No funds were requested for continued acquisition of DSP 24. The Committee agrees with the DOD proposal to discontinue development of this specific satellite. No funds are included in this bill and no funds are available without the specific prior approval of the Committee.

As discussed elsewhere in this report, the Air Force is directed to begin configuring DSP satellites 21, 22, and 23 for launch on the shuttle.

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Clementine

The Committee believes that management of the Clementine I project should remain at the existing facilities as management responsibility shifts from the Ballistic Missile Defense Program to the military services. If the Department proposes to continue the Clementine program by using different DOD facilities to manage the program, the existing facilities should be permitted to compete for the opportunity to continue managing the program. However, no funds were requested by DOD for additional Clementine satellites and no funds have been provided.

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MAJOR SPACE PROGRAM FUNDING

As discussed elsewhere in this report under Space and Related Programs, a total of \$1,386,020,000 in research and development funding for major space programs has been transferred to RDT&E, Defense-Wide. The following table details these transfers.

(In thousands of dollars)

Program	Program element	Transfer amount
Satcom Ground Environment	0303142A	95,191
Satellite Communications	0303109N	47,115
Defense Meteorological Satellite Program (DMSP)	0305160N	14,639
Advanced Spacecraft Technology	0603401F	24,200
Space Systems Environmental Interactions Technology	0603410F	4,200
Space Test Program	0603402F	62,084
Advanced Milsatcom	0603430F	35,000
Defense Meteorological Satellite Program Block 6	0603434F	7,601

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[in thousands of dollars]

Program	Program element	Transfer amount
Satellite Systems Survivability	0603438F	8,531
Brilliant Eyes	0603440F	120,000
Advanced Space Based TW/AA (DEM VAL)	0603441P	150,000
Winstar LDRACG Sat Comm	0604479F	607,248
UHF Satellite Communications	0303606F	20,879
Defense Satellite Communications System	0303110F	30,876
Medium Launch Vehicles	0305119F	21,042
Upper Stage Space Vehicles	0305133F	3,663
Titan Space Launch Vehicles	0305144F	4,000
Defense Meteorological Satellite Program (DMSP)	0305160F	21,135
Navstar Global Positioning System (Space and Controls)	0305165F	51,125
Defense Support Program	0305911F	47,351
Midet Detection System	0305913F	10,140

BRILLIANT EYES

As discussed elsewhere in this report under Space and Related Programs, within the RDT&E, Defense-Wide appropriation the \$120,000,000 requested for Brilliant Eyes under Ballistic Missile Defense Technology (P.E. 0604217C) has been transferred to a new program line.

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SPACE-BASED INFRARED ARCHITECTURE

The conferees also direct the Department of Defense to conduct an independent assessment of areas evaluated under the Space-Based Infrared Review panel. The review should provide a detailed assessment of the Heritage sensors ability to meet the current and objective tactical warning and attack assessment (TW/AA) operational requirements; the Heritage sensor modifications required and the associated technical risk; the cost of the associated Heritage sensor modification efforts; the estimated cost of an early warning satellite based on the Heritage sensor; and the merits, alternate approaches, and schedule impacts of conducting a demonstration or prototyping effort for the modified Heritage sensor. The conferees believe that this review should be conducted by a party with the Alert, Locate and Report Missiles (ALARMS) program; or the Brilliant Eyes program. The conferees direct all elements of the DoD to cooperate fully and provide all information necessary to conduct this review. The conferees further direct that this review be completed by February 15, 1995.

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Spaced-Base Infrared Architecture	221,000
Heritage Sensor	+111,000
Brilliant Eyes	+120,000
Cobra Brass	+5,000
General Reduction	-15,000

**THEATER MISSILE DEFENSE
UPPER TIER**

THEATER MISSILE DEFENSE
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SEC. 232. THEATER MISSILE DEFENSE PROGRAMS.

(a) NAVAL THEATER MISSILE DEFENSE.—Of the amount provided for the Ballistic Missile Defense Organization under section 201 for Theater Missile Defense, not less than \$40,000,000 shall be available to support the aggressive exploration of the Navy Upper Tier Program for Naval Theater Missile Defense.

(b) ACCELERATED ADVANCED CONCEPT TECHNOLOGY DEMONSTRATION PROGRAM.—The Secretary of Defense, acting through the Director of the Ballistic Missile Defense

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(c) COMPLIANCE REVIEW FOR NAVY UPPER TIER SYSTEM.—(1) If the funds made available for fiscal year 1995 for the theater ballistic missile program known as the “Navy Upper Tier” program pursuant to the authorizations of appropriations in section 201 or otherwise exceed \$17,725,000, the Secretary of Defense shall review the Navy Upper Tier program to determine whether the development, testing, and deployment of that system would be in compliance with the ABM Treaty, including the interpretation of the Treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

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Organization, shall initiate during fiscal year 1995 an accelerated Advanced Concept Technology Demonstration Program to demonstrate the technical feasibility of using the Navy's Block IV Standard Missile combined with a kick stage rocket motor and the lightweight Exoatmospheric Projectile (LEAP) as a near-term option for cost-effective wide-area Theater Missile Defense.

(c) THEATER MISSILE DEFENSE PROGRAM PRIORITIES.—(1) The Secretary of Defense, acting through the Director of the Ballistic Missile Defense Organization, shall establish as the first priority of the Theater Missile Defense Program the deployment of—

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(2) In the event a compliance review is necessary under paragraph (1), not more than \$17,725,000 may be obligated for the Navy Upper Tier program before the date on which the Secretary submits to the appropriate congressional committees a report on the compliance of the Navy Upper Tier program with the ABM Treaty.

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(A) a layered land-based Theater Missile Defense capability consisting of the Patriot Advanced Capability (PAC-3) system and the Theater High-Altitude Area Defense (THAAD) system; and

(B) a layered sea-based Theater Missile Defense capability consisting of the Navy Lower Tier theater missile defense program and the Navy Upper Tier theater missile defense program.

(2) Each program referred to in paragraph (1) shall be treated by the Department of Defense as a major acquisition program for funding purposes for fiscal years 1995 through 1999, as prescribed in the October 1993 report of

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*the Secretary of Defense entitled "Report on the Bottom Up
Review" and in Defense Planning Guidance.*

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Upper tier theater missile defenses

The committee supports BMDO's upper tier research efforts. The committee believes that both the land-based and ship-based approaches have the potential to make important contributions to theater missile defense efforts. The committee urges the Secretary to take steps to minimize possible duplication of effort between the two approaches and to pursue those technologies that will maximize system performance in terms of lethality and extremely high intercept probability while keeping costs as low as possible.

Accordingly, the committee has recommended authorization of \$495.7 million for the Theater High Altitude Air Defense system (the full amount requested), and \$40 million for sea-based wide area defense (a \$22.25 million increase over the request). The sea-based wide area defense program is also eligible for consideration under the Theater Missile Defense Risk Reduction Fund. These funds should be used to accelerate testing of various concepts and to perform appropriate systems studies.

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Theater Missile Defenses

The committee commends BMDO for its restructuring and consolidation of TMD programs, and endorses the priority shown in the funding request for near-term TMD systems. The committee also endorses the Department's selection of the ERINT missile as the Patriot PAC-3 interceptor. The committee takes note, however, of the comments by review panels that the ERINT program is not without technical risk. Therefore, in view of the importance of early deployment of improved TBM capabilities, the committee concludes that at the same time ERINT is entering the engineering and manufacturing development (EMD) phase, continued research and development on the multi-mode missile is a wise hedge against the possibility of technical problems with ERINT early in its EMD phase. The committee understands that some \$58.5 million is already available within the total PAC-3 request for risk-mitigation efforts, the bulk of which, DOD has informally indicated, is to be allocated to the multi-mode missile program.

The committee notes BMDO testimony that, after funding the NMD, follow-on technologies, and near-term TMD programs as recommended in the BUR, the remaining TMD funding would be adequate to allow only one of three follow-on TMD systems to enter EMD in about 1998. In effect, BMDO claims the overall funding level approved by the Administration—\$17.6 billion over five years—will force the Congress to choose one candidate from among Navy upper tier, CORPS SAM, and some candidate boost-phase intercept (BPI) programs. The committee believes a strong case could be made for pursuing EMD on all three systems, should the development of technologies be accomplished successfully.

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Boost-phase interception

The committee notes the Department's recent emphasis on boost-phase interception of theater ballistic missiles. As a general proposition, the committee appreciates the many attractive features of this approach to ballistic missile defense but is puzzled by the Department's approach to the issue. The demanding timelines of boost-phase interception pose major problems to traditional interceptor approaches that would be aggravated by relatively modest offensive countermeasures.

For example, a laser-based approach to boost-phase interception seems to provide a better answer, but lasers capable of maintaining beam focus while traveling long distances through the atmosphere are a formidable technological challenge. Both approaches also raise significant Anti-Ballistic Missile Treaty questions as well. The committee notes that the BMDO is seeking more funding for space-based laser research than it is for atmospheric-based boost-phase interception, priorities with which the committee does not concur.

The Department has not presented the committee with persuasive evidence that the Department's overall priorities in this area are proper. Accordingly, the committee has recommended authorization of \$33.6 million for boost-phase interception RDT&E, a \$27.5 million reduction from the requested level. The committee has also recommended authorization of \$20.5 million for chemical laser research, a \$57.0 million reduction. The committee further recommends that the Secretary use this funding for atmospheric and ground based laser approaches.

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In the following, the committee proposes a different solution to the BMDO "Hobson's choice": the committee intends to vigorously scrutinize and, where possible, reduce BMDO "overhead" functions, in order to devote more of the \$17.6 billion in the Future Years Defense Program (FYDP) to specific defense programs like the three follow-on TMD candidates, as well as to a reinvigorated NMD program. The committee expects BMDO to facilitate the development and deployment of defenses against ballistic missiles, to provide "value added" to the process. BMDO overhead cannot and will not be allowed to become a burden, a "tax," on timely development and deployment of effective missile defenses.

For the past several years, the congressional defense committees have repeatedly tried to develop a system for funding, reporting on, and providing oversight over ballistic missile defense programs that would both provide the BMDO adequate flexibility to pursue promising avenues of research and provide appropriate oversight to the congressional defense committees. The results of this process continue to be disappointing. The current budgetary submission contains 13 separate line-items; four are labeled "Ballistic Missile Defense Technology," four others are labeled "Theater Missile Defenses," and the only NMD-related line-item requests no funding for fiscal year 1995.

As the Congress has reduced the portion of BMDO budgets devoted to exploratory research on a wide range of promising technologies, and increased the funding for development of well-defined

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SECTION 232—THEATER MISSILE DEFENSE PROGRAMS

This section would authorize \$40 million to support the aggressive exploration of the Navy Upper Tier Program for Naval Theater Missile Defense. It also would direct the Secretary of Defense to initiate in fiscal year 1995 an accelerated Advanced Concept Technology Demonstration Program to demonstrate the Navy's Block IV Standard Missile with a kick stage rocket motor and the Exoatmospheric Projectile for Theater Missile Defense. The section also would set as the first priority of the Theater Missile Defense capability the deployment of a layered land-based capability consisting of the Patriot Advanced Capability (PAC-3) system and the Theater High-Altitude Area Defense (THAAD) system; and a layered sea-based Theater Missile Defense capability consisting of the Navy Lower Tier theater missile defense program and the Navy Upper Tier theater missile defense program.

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programs, particularly in the TMD arena, it is now time for the congressional defense committees to authorize and appropriate funds for specific TMD programs and activities, much as they do for other major defense programs.

Therefore, the committee recommends the following specific amounts for the near-term TMD programs under BMDO purview:

- For Patriot PAC-3, including risk-mitigation funds, \$600.0 million;
 - For THAAD, \$495.7 million;
 - For the Navy lower-tier program, \$194.0 million;
 - For the ground based radar-tactical (GBR-T) program, \$173.2 million;
 - For the Hawk system upgrades, \$30.6 million; and
 - For battle management, command, control, communications, and intelligence for TMD systems, \$34.1 million.
- The committee also recommends the following allocations for support of additional TMD programs:
- For follow-on TMD programs, including Navy upper tier, CORPS SAM, and BMDO BPI programs, \$96.6 million; and
 - For a risk mitigation fund to accelerate development and deployment of TMD systems, \$75.0 million.
- BMDO and the Department of Defense Comptroller are directed to use these specific line-items in budget submissions and reports to the Congress as of October 1, 1994.

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Funds contained in the risk mitigation fund may be used to increase funding for Patriot PAC-3 capabilities, including additional risk-mitigation activities, and for the acceleration of any or all of the follow-on TMD programs, at the discretion of the Secretary of Defense. Not less than 30 days prior to the obligation of any part of the risk mitigation fund, the Secretary shall inform the congressional defense committees of his proposed allocation of funds among the designated programs, including such funds as he may choose to reserve for subsequent obligation.

The committee has closely followed the selection of one of the two candidates—ERINT and multi-mode missile—for the PAC-3 system. We are pleased that the Department has finally completed the Defense Acquisition Board process and is moving to develop ERINT, the selected missile.

However, the committee recognizes that the multi-mode missile has substantial potential against various threats, especially cruise missiles and electronic countermeasures, that are worth developing in the context of the planned risk mitigation program. While the full scope of this program has not been finalized, the committee recommends that it include sufficient flight tests to validate these needed capabilities.

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SEC. 221. ARROW/ACES PROGRAM.

Of the amount provided in section 201 for Defense-wide activities, \$52,400,000 is available for the Arrow/ACES program.

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(d) COMPLIANCE REVIEW FOR NAVY UPPER TIER SYSTEM.—(1)
The Secretary of Defense shall review the theater ballistic missile program known as the Navy Upper Tier program to determine whether the development, testing, and deployment of the system being developed under that program would be in compliance with the ABM Treaty, including the interpretation of the Treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

(2) *Of the funds made available to the Department of Defense for fiscal year 1995, not more than \$40,000,000 may be obligated for the Navy Upper Tier program before the date on which the Secretary submits to the appropriate congressional committees a report on the compliance of that program with the ABM Treaty, as determined under the compliance review under paragraph (1).*

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COMPLIANCE REVIEWS

The conferees agree to a provision that would require compliance reviews for both the Brilliant Eyes program and the Navy upper tier program. Guidance for the Brilliant Eyes review is contained in the Senate report (S. Rept. 103-282); for the Navy upper tier program, the conferees require a review of the compliance of the LEAP configuration both as currently planned, and if the kick-stage motor were restricted to limit LEAP velocity to three kilometers per second.

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Domestic source for PAN fiber

The budget request contained no funds for PAN fibers.

The Senate bill would provide \$4.0 million to develop a domestic source for PAN fiber production.

The House amendment contained no similar funding.

The Senate report (S. Rept. 103-282) expressed concern that there are no domestic suppliers for high-modulus polyacrylonitrile (PAN) fiber. Composite materials using this fiber have a unique combination of specific strength and stiffness. A number of future systems (e.g., the THAAD missile) are examining the use of advanced composites using PAN fiber. Although two U.S. companies have developed high modulus PAN fibers, neither has been qualified to go into production. The conferees have been advised that the Army is concerned that it cannot guarantee future availability in the amounts required unless the material is ordered far ahead of time as a long-lead item.

The conferees agree to authorize an additional \$4.0 million in PE 62105A in order to qualify at least two domestic sources for high modulus PAN fiber. The conferees agree that these funds may not be obligated unless the Army has firm contractual commitments from two domestic sources to qualify for future DOD production requirements.

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Ballistic missile defense programs (secs. 231, 233, and 235)

The Senate bill contained four provisions (secs. 221-224) that would deal with ballistic missile defense issues.

The House amendment also contained four provisions (secs. 221 and 231-233) that would cover similar or related issues.

The Senate report (S. Rept. 103-282) and House report (H. Rept. 103-449) also provided extensive guidance on ballistic missile defense (BMD) issues to the Ballistic Missile Defense Organization (BMDO).

The conferees explain in the following subsections their: broad policy guidance for ballistic missile defense research, development, testing, and deployment; concerns regarding the BMDO funding proposal for fiscal year 1995 and underlying long-term plans; resolution of those concerns; decisions and recommendations on programmatic and funding issues; and additional guidance on specific matters. Specific legislative provisions contained in this conference report will be discussed in the context of this guidance.

BROAD POLICY GUIDANCE

The conferees reiterate the broad policy guidance contained in the statements of the managers (H. Rept. 103-357 and H. Rept. 102-311) accompanying the National Defense Authorization Act for Fiscal Year 1994 and the Missile Defense Act of 1991 (10 U.S.C. 2431 note).

The conferees reaffirm that their highest priority for BMDO is the rapid development and early deployment of more effective theater missile defenses (TMD) designed to meet both existing and realistic near-term threats. In general, the conferees believe that an effective TMD capability will require a layered defense approach, using multiple systems.

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In this regard, the conferees are troubled by the BMDO approach to the three follow-on TMD systems—Navy upper tier, CORPS SAM, and boost phase intercept (BPI). BMDO has structured these programs so that overall BMD funding in future years would be insufficient to support engineering and manufacturing development (EMD) for more than one of these TMD systems. Therefore, in its budget request, BMDO arbitrarily limited funding for the first two candidates, while it expanded funding for a variety of less mature BPI concepts. This funding strategy is designed to position all three candidate systems for a selection "contest" during fiscal year 1998, from which only one candidate would be selected for further development. In this area, the conferees find the BMDO strategy and funding assumptions to be flawed. In the judgment of the conferees, this approach has contributed to significantly expanded technical risk within BPI programs.

The conferees believe valid military requirements exist for each of the three follow-on TMD systems, and do not believe the natural pace of development should be either artificially delayed or unduly accelerated. The conferees further believe that a larger share of the overall BMD funding called for in the Bottom-Up Review (BUR) than BMDO apparently plans to allocate to TMD systems can be squeezed from lower priority BMDO activities in order to accelerate the development for deployment of the next generation of TMD systems.

Last year the conferees agreed that BMDO should focus more funding and management attention on these higher priorities, de-emphasize generic, technology-base R&D, and transfer far-term technologies back to the services and defense agencies. The conferees were disappointed that the BMDO budget proposal still devoted more than 25 percent of BMD funding to lower-priority activities. As noted above, the conferees intend to vigorously support the development of selected follow-on TMD systems, and believe this can only be done if the level of effort and funding for lower-priority programs, projects, and activities is reduced.

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NAVY UPPER TIER

Concerns about Navy lower tier warhead lethality affect other major TMD programs. The conferees note that a significant fraction of Navy lower tier funding supports Navy upper tier development. The current Navy upper tier program does involve hit-to-kill technology, but the LEAP vehicle is incompatible with the lower tier mission. The conferees recognize that the combination of Navy lower tier and Navy upper tier may be the lowest-cost combination for sea-based TBM systems; however, they recognize it may also be the least effective. If the Navy lower tier program were to be delayed by the search for greater lethality, or canceled in favor of other options, the program cost of the Navy upper tier would increase. The Navy upper tier program is also affected by the Administration's recent proposals in the Standing Consultative Commission to clarify the ABM Treaty. Under the proposed three kilometer per second interceptor velocity limit, the performance of the Standard missile equipped with a LEAP kill vehicle may be reduced to a point at which its cost and effectiveness relative to a maritized version of THAAD would require re-examination. Both factors suggest the need for prompt and thorough re-evaluation of the cost and effectiveness of the Navy upper tier program.

FOLLOW-ON TMD SYSTEMS

BMDO is pursuing three follow-on TMD programs that address different aspects of the theater missile threat: the Army's CORPS SAM; the Navy's upper tier; and the Air Force's boost phase intercept (BPI) programs. BMDO is seeking to bring all three programs to an EMD decision in 1998. Given the lack of technological maturity of BPI, the BMDO budget request would constrain funding for both CORPS SAM and Navy upper tier and allocate greater funding for BPI than is warranted by a development program of low-to-medium technical risk—the standard the conferees have traditionally applied.

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OTHER BOOST-PHASE TECHNOLOGIES

In addition to the BPI program contained in the BMDO follow-on TMD category, funds for three boost-phase intercept concepts were also included in the budget request; the BMDO space-based laser program; the Air Force airborne laser program; and the Air Force air-launched kinetic-kill boost-phase interceptors. Funds requested for these four concepts exceeded \$210.0 million. The congressional defense committees have all concluded that this level of funding is unsupportable. Clearly, the number of BPI approaches vying for scarce funds must be reduced so that significant progress can be made on one or two realistic concepts.

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THEATER MISSILE DEFENSE

The conferees further agree to provide substantial funding for the highest priority TMD programs. The conferees, however, also agree to restrict the obligation of portions of those funds until a number of additional analyses are prepared and delivered to the congressional defense committees, and until the committees receive additional assurances that these funds are required.

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UPPER TIER PROGRAM (CONTINUED)

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NAVY UPPER TIER

For the Navy upper tier program, the conferees agree to recommend \$50.0 million. Of this amount, \$10.0 million may not be obligated until all of the following conditions have been met:

(1) an updated funding profile and schedule is provided to the congressional defense committees setting forth the cost and schedule for development and deployment of the planned Navy upper tier system if changes were made to the scope and schedule of the Navy lower tier system;

(2) an analysis of the cost-effectiveness of the planned Navy upper tier system (LEAP) relative to a maritized version of the THAAD interceptor missile has been conducted and the results have been provided to the congressional defense committees. The analysis shall be conducted under the following assumptions: (a) that the Navy lower tier program is, in one instance, canceled at the end of fiscal year 1995, and, in a second instance, is continued; (b) that the Army's THAAD program is fully funded through EMD; and (c) that the maximum velocity of a sea-based TMD interceptor is, in one instance, limited to three kilometers per second and, in a second instance, is unconstrained; and

(3) the report on the compliance of the Navy upper tier system has been delivered.

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BOOST PHASE INTERCEPT PROGRAMS

The requested amounts for BPI programs in both BMDO and the Air Force totalled \$210.6 million. Both the Senate bill and the House amendment would provide substantial funding for all BPI programs. The conferees are disappointed that both the Senate and the House defense appropriations bills have sharply restricted funding for BPI programs to \$90.0 million or less. Given this constraint, the conferees recommend \$30.0 million within the BMDO budget for high-power laser research. These funds may only be used to complete the integration of the Alpha laser, LAMP optics, and LODE beam control in such a way as to maximize the utility of the results for tactical applications of chemical lasers. The conferees also direct that the funds may not be used to initiate or carry out any work on the shield integration facility or any space-craft-related activity. The conferees intend that the space-based portion of the chemical laser program end upon completion of the Alpha LAMP integration.

Of the remaining funds for BPI programs within the appropriations ceilings, the conferees recommend \$20.0 million for the Air Force's airborne laser program, and \$40.0 million for the BMDO boost phase intercept program. No funds are recommended for the boost phase intercept program contained within the Air Force's "theater missile defense" program element.

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The conferees are disappointed with the Defense Department's overall effort to manage high-power laser research for tactical applications. The high-power laser guidance report, submitted by the Department in June 1994, does not outline an integrated departmental program for tactical application of high-power lasers. The conferees are concerned that this technology base is slowly withering away outside the Air Force, the one service providing significant support. The conferees, therefore, direct that the high-power laser program guidance be updated by March 31, 1995, with a view toward sustaining a technology base in high-power lasers for Army, Navy, and Air Force tactical applications. The conferees expect an integrated DOD high-power laser program to be reflected in the fiscal year 1996 request for the DOD science and technology base.

PROCUREMENT

The conferees recommend fully funding the \$273.4 million request for procurement.

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ARROW/ACES

Within the "other TMD activities" program element, the conferees recommend \$52.4 million for the joint U.S.-Israel ARROW/ACES program, which is the requested amount. The conferees note, however, that the concerns they have expressed regarding the questionable lethality of blast-fragmentation warheads against nuclear warheads and warheads containing chemical weapons submunitions apply even more directly to the ARROW/ACES program than to the Navy lower tier program. The conferees therefore direct BMDO to analyze the lethality of the planned ARROW/ACES warhead against the same threat spectrum and under the same ground rules as were used in the PAC-3 selection and are required to be used in conducting other analyses above. The results of this analysis shall be provided to the congressional defense committees not later than March 31, 1995.

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FLIGHT TESTING OF THAAD INTERCEPTOR MISSILES DURING FISCAL
YEAR 1995

The Senate report (S. Rept. 103-282) contained a section entitled "Compliance of THAAD Flight Testing During Fiscal Year 1995." The conferees endorse the views expressed in that section.

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ARROW/ACES program

The House amendment contained a provision (sec. 221) regarding funding for the ARROW/ACES program.

The Senate bill contained no similar provision.

The House recedes. Funding for ARROW/ACES is discussed elsewhere in this statement of the managers.

Theater missile defense programs

The House amendment contained a provision (sec. 232) that would provide funding and guidance for the Navy upper tier theater missile defense program.

The Senate bill contained no similar provision.

The House recedes. Funding for the Navy upper tier program is discussed elsewhere in this statement of the managers.

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Provided, That not less

than \$120,000,000 of the funds appropriated in this paragraph are available only for the Sea-Based Wide Area Defense program:

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BILL LANGUAGE:

No language exists.

THEATER MISSILE DEFENSE
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Theater Ballistic Missile Defense: The bill includes a \$102 million increase above the budget to accelerate the Sea-Based Wide Area Defense (Navy Upper Tier) program which will provide ballistic missile protection from AEGIS ships. The bill also fully funds the next-generation ERINT and Patriot programs for ground-based ballistic missile protection.

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THEATER MISSILE DEFENSES

The Air Force requested \$79,302,000 for theater missile defenses. The Committee recommends \$27,302,000, a reduction of \$52,000,000 for boost phase intercept. The Committee believes that if this program is pursued by the Defense Department, it should be structured to meet joint service requirements and be subject to the priorities and disciplines inherent in the Ballistic Missile Defense program for which this bill provides about \$2,750,000,000.

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Airborne laser technology; theater missile defense.—The Committee recommends the transfer of the full amount requested for development of airborne laser technology, \$20,000,000, to the combined boost phase intercept [BPI] project established within the Ballistic Missile Defense Organization [BMDO] Follow-On Technologies Program element. The House fully funded the budget request in this Air Force program element.

Similarly, the Committee also transfers the full \$52,000,000 sought for an ascent phase demonstration under this theater missile defense program element to the BMDO Program. The Committee's views are further detailed in the discussion contained in the "RDT&E, defensewide" section of this report.

The Committee provides \$17,002,000 in the Air Force theater missile defense program element, adjusting the budget request downward by \$62,300,000 and providing \$10,300,000 less than the House allowance. The funding recommendation implements the following actions: (a) deletes \$52,000,000, as noted above, to effect the transfer of the Boost Phase Intercept [BPI] Program into the Ballistic Missile Defense Organization [BMDO]; (b) adds \$4,700,000 transferred to this program element from the Advanced Research Projects Agency [ARPA]; and (c) denies \$15,000,000 as discussed under the high gear entry within this section of the report.

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BALLISTIC MISSILE DEFENSE

The Department requested \$2,979,855,000 for Ballistic Missile Defense research and development programs. The Committee recommends \$2,491,762,000 for the Ballistic Missile Defense Organization's (BMDO) research and development programs, a reduction of \$488,093,000. This level of funding is the same as proposed by the House Armed Services Committee. The Committee recommends specific changes in Ballistic Missile Defense Organization programs as detailed in the table below.

MODIFICATIONS TO BMD PROGRAM

(In thousands of dollars)

Project	Request	MSC	MIC	Change
PE 0602217				
Ballistic Missile Defense Technology	106,460	73,460	73,460	-33,000
PE 0603216				
Theater Missile Defense	491,131	480,281	581,381	+102,250
Sea-Based Wide Area Defense	17,750	40,000	120,000	+102,250
PE 0603217				
Ballistic Missile Defense Technology	769,993	584,393	444,283	-325,710
BPM	61,100	33,600	17,725	-43,375
ChemLaser	77,500	20,500	20,500	-57,000
Undistributed Reduction to NMD	0	0	-225,335	-225,335
PE 0604216				
Theater Missile Defense	1,071,283	974,040	976,050	-95,233
Patriot	69,240	0	69,240	0
ERINT	58,460	0	58,460	0
Lower Tier Risk Reduct	0	210,000	0	-210,000
THAAD	495,690	495,690	480,000	-15,690
Sea Based TMD INT	179,543	0	100,000	-79,543
PE 0603218				
Research & Support Activities	215,233	199,833	198,833	-16,400

Theater high altitude area defense [THAAD].—The theater high altitude area defense system will be used with the ground-based radar for theater missile defense [GBR-TMD] to provide wide area protection from theater ballistic missiles [TBM's] for our forward deployed forces. The Committee strongly endorses this program, recognizing that it responds to an urgent military requirement. However, the Committee remains concerned about the pace and concurrency within the program. The Committee denies \$30,000,000 sought to support 4 of the 10 planned flight tests scheduled in fiscal year 1995, since it is not likely that DOD can accomplish all planned tests. The total program funding level, \$465,690,000, is \$14,310,000 below the House allocation.

Sea-based area TBMD (Navy lower tier).—The Committee provides \$149,056,000; adding \$49,056,000 to the House allowance but reducing the budget request by \$30,487,000. The Navy has initiated a cost and operational effectiveness analysis [COEA] to consider options for both the Navy upper and lower tier programs. The Committee continues to agree with DOD officials that the Navy Lower Tier Program should reduce the risk and prove the concept of sea-based theater ballistic missile defense. Thus, the Committee felt that adding funds for the Navy Upper Tier Program was not warranted. Similarly, the Committee felt that fully funding the budget request prior to completion of the COEA and further study of lethality issues was also not warranted.

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The Committee is supportive of BMDO's theater missile defense programs. The Committee agrees with the House Armed Services Committee that the theater missile threat deserves top priority. Therefore, the Committee generally recommends funding theater missile defense programs at the budget request level. However, in the case of the sea-based wide area defense program (formerly the Navy-upper tier program), the Committee provided a significant increase over the budget request. The Committee includes bill language to earmark \$120,000,000 only for sea-based wide area defense, an increase of \$102,250,000 over the budget request.

Regarding the boost phase intercept (BPI) program, the Committee agrees with the House Armed Services Committee report that the Department's emphasis on the program is unwarranted considering the technological challenges, the possibility of countermeasures, and possible Anti-Ballistic Missile compliance issues. Furthermore, the Committee believes that BMDO cannot afford to initiate development of another expensive technology. BMDO projects that the Corps SAM and sea-based wide area defense programs each need \$157,300,000 for development through 1999 and the BPI program needs \$372,300,000. Since BMDO also projects that its budget will be sufficient to support the acquisition of only one of these advanced capability programs, the Committee does not believe all three programs can be fully funded through development. In addition, the Bottom-Up Review emphasized Navy-upper tier rather than Corps SAM or BPI. Therefore, the Committee recommends \$17,725,000 for the BPI program, which is the same level of funding being provided to Corps SAM.

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The Committee recognizes that the Pacific missile range facility [PMRF] air, surface, and subsurface ranges and associated test and exercise infrastructure provide the unique capability to conduct virtually unrestricted test and evaluation in ideal conditions in support of the Defense Department, the armed services, the National Aeronautics and Space Administration, and U.S. friends and allies. Furthermore, the range is specifically equipped with the optical and radar tracking equipment, communications network, test control facilities, rocket launch infrastructure, and range support capability necessary to support tests of theater missile defense systems and concepts. Based on these unique assets and PMRF's demonstrated record of success, the Committee directs that the Pacific missile range facility [PMRF] shall be designated the primary test range for the completion of Navy lower tier and upper tier missile flight tests.

Ground based radar—theater missile defense (GBR-TMD).—The Committee has increased the budget amount, and the House allowance, for GBR-TMD by \$20,000,000 to provide a total of \$193,200,000. Termination of the national missile defense radar [GBR-NMD] has resulted in increased infrastructure and technology support requirements being levied on the GBR-TMD effort. To ensure the availability of radar systems to support THAAD flight tests, the Committee provides the necessary increase in program funds.

Battle management and C4I for TMD.—The Committee eliminates \$20,933,000 compared to the budget request and the House allowance, holding activities in this project to the fiscal year 1994 level. The recommendation provides \$12,567,000 to complete the highest priority C4I integration efforts.

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The theater high altitude area defense (THAAD) system has experienced a schedule slip in its flight tests. The Committee believes that additional schedule slips are possible before resolution of negotiations with Russia and the other successor states to the Anti-Ballistic Missile treaty over whether the THAAD system and testing of the system is compliant with the treaty.

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Follow-on TMD.—The Committee recommends \$436,814,000 to continue projects which support the development and evaluation of emerging and future theater ballistic missile defense concepts. The approved funding level reflects a decrease of \$42,317,000 in the collected budget request for projects related to follow-on TMD and a reduction of \$144,592,000 versus the allocations made by the House. A number of adjustments are made to reflect the Committee's priorities.

First, a reduction of \$7,725,000 is proposed in the Corps Sam Program. The decrease includes \$1,900,000 to procure Government furnished equipment for a nonexistent program and \$5,825,000 for in-house and support contract efforts which were budgeted at a level exceeding the major contract value.

Second, the Committee directs that \$4,000,000 of the test and evaluation support funds shall be made available only to sustain the operations and support BMDO test activities at the Kauai test facility [KTF].

Third, a cut of \$22,962,000 in the engineering/integration support project is recommended. The budget request sought 255 percent real growth in these activities. BMDO provided no justification for such an excessive increase in support costs.

Fourth, a decrease of \$11,630,000 is proposed in the architecture and studies project. The following discrete decreases make up the total reduction: (a) \$5,000,000 from unspecified commanders in chief exercises; and (b) \$6,630,000 for functional analyses of upgraded approaches to sensors, command, control, communications, and intelligence capabilities, efforts which are premature until current baselines are established.

Last, the Committee directs that \$52,400,000, the budget request amount, shall be made available only for the Arrow Continuation Experiments [ACES] Program. Further, the Committee directs that, within the total funds available for follow-on TMD efforts, \$15,000,000 should be allocated to ARROW.

The Committee has provided the requested amount for the TMD-Critical Measurements Program II [TCMP II]. The Committee expects BMDO to execute this program as planned at the funded level.

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Follow-on technologies.—The recommended funding level of \$297,737,000 for consolidated technology efforts which support current and future TMD systems represents a decrease of \$111,654,000 to the budgeted amount and an allocation of \$21,721,000 above the House. The actions comprising the Committee's recommendations are outlined in the text which follows.

First, \$38,000,000 budgeted for a new effort to develop and evaluate advanced sensor concepts is eliminated. While still refining program plans, BMDO anticipates an unsupportable \$500,000,000 program to provide a follow-on sensor for the Boost Phase Intercept [BPI] Program.

Second, the Committee has deleted \$61,100,000 for the Kinetic Energy BPI Program; \$77,500,000 for the space-based laser [SBL] BPI project; \$52,000,000 in Air Force RDT&E funds also budgeted for the Kinetic Energy BPI Program; and \$20,000,000 in Air Force RDT&E funds budgeted for the Airborne Laser BPI Program. The Committee believes that three costly BPI programs, all of which lack full out-year funding, are unaffordable. In a defense budget which already is underfunded by roughly \$20,000,000,000, the Committee believes the use of limited research and development funds to pursue all three BPI concepts is unwise.

The Committee provides \$90,000,000 in a consolidated program with the expectation that DOD will have to make difficult, but necessary, choices between competing BPI concepts. The Committee directs that BMDO provide a plan for these funds prior to obligating any amounts. The House provided \$17,725,000 for kinetic energy BPI and \$20,500,000 for the SBL BPI effort but did not consolidate BPI projects.

The Committee urges that consideration be given to a joint United States-Israel Boost Phase Intercept Program. The Committee recommends that up to \$15,000,000 of BPI funds may be used for such a joint program provided that the Secretary of Defense provides the following certifications to the congressional defense committees: (a) the United States and Israel have entered into an international agreement governing the conduct and funding of such a joint effort; and (b) the projects will have specific, direct benefits for the United States.

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In lieu of the matter stricken and inserted by said amendment insert: : *Provided, That not less than \$75,000,000 of the funds appropriated in this paragraph shall be made available only for the Sea-Based Wide Area Defense (Navy Upper-Tier) program.*

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The conferees agree to provide \$75,000,000 for the Sea-Based Wide Area Defense program (Navy-Upper Tier), and direct that none of the funds may be spent on activities that prejudice the outcome of the ongoing cost and operational effectiveness analysis of Navy ballistic missile defense programs.

The conferees have provided an increase of \$3,000,000 only to pursue activities under a joint United States-Israel Boost Phase Intercept program. The conferees agree that these funds may be used once the Secretary of Defense provides the following certifications to the congressional defense committees: (a) the United States and Israel have entered into a contractual effort; and (b) the projects will have specific, direct benefits for the United States.

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THAAD	470,000
Navy lower tier	140,000
Navy upper tier	75,000
Boost phase intercept program	40,000
GBR-1	173,200
Corps SAM	15,000
HAWK upgrades	26,800
Battle Mgt and C41 for TMD	21,231
Battle Mgt and C41 for TMD	20,676
C41 & Concepts Ops Anal	555
Follow-on TMD	381,931
Discrimination	58,119
Sensor studies and experiments	22,471
Interceptor component technology	0
Sea based wide area (Navy upper tier)	0
Survivability	3,000
Lethality & target hardening	15,761
ARROW/ACES	47,400
Corps SAM	0
Engineering/integration support	22,628
Architecture & studies	39,031
Operations interface	666
Test & evaluation support	163,855
Kauai test facility	4,000
Operational support	0
Arrow deployability [Note: The conferees provide a total of \$15,000,000 only for the Arrow Deployability Program.]	5.00

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PACIFIC MISSILE RANGE FACILITY

The conferees agree with the Senate direction and guidance with respect to the Navy's Pacific Missile Range Facility and its inclusion in the Defense Department's Major Range and Test Facility Base on its role in testing the Navy's ballistic missile defense systems.

**THEATER MISSILE DEFENSE
LOWER TIER**

THEATER MISSILE DEFENSE
LOWER TIER

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No language exists.

(c) *THEATER MISSILE DEFENSE PROGRAM PRIORITIES.*—(1) *The Secretary of Defense, acting through the Director of the Ballistic Missile Defense Organization, shall establish as the first priority of the Theater Missile Defense Program the deployment of—*

(A) *a layered land-based Theater Missile Defense capability consisting of the Patriot Advanced Capability (PAC-3) system and the Theater High-Altitude Area Defense (THAAD) system; and*

(B) *a layered sea-based Theater Missile Defense capability consisting of the Navy Lower Tier theater missile defense program and the Navy Upper Tier theater missile defense program.*

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(2) Each program referred to in paragraph (1) shall be treated by the Department of Defense as a major acquisition program for funding purposes for fiscal years 1995 through 1999, as prescribed in the October 1993 report of the Secretary of Defense entitled "Report on the Bottom Up Review" and in Defense Planning Guidance.

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Lower tier theater missile defenses

The committee is concerned about the inconsistency between the land-based and sea-based lower tier theater missile defense programs. The committee notes that the Extended Range Interceptor (ERINT) missile, recently selected as the interceptor for the PAC-3 system, uses an interception concept known as "hit-to-kill." Under this concept, the interceptor directly hits its target at high speed, rather than coming close and exploding a warhead (called "blast fragmentation") as the Multi-Mode missile does.

The Department has explicitly and emphatically stated that the ERINT missile's "hit-to-kill" technology was the dominating factor in selecting the PAC-3 instead of the Multi-Mode missile. The Army has noted that a blast-fragmentation warhead allows a greater percentage of warhead submunitions and chemical/biological agents to survive intercept and land within targeted areas. The PAC-3 interceptor source selection decision was intensely scrutinized by the Army, the Defense Acquisition Board, and an independent panel of distinguished experts. All three reviews ratified the hit-to-kill concept and the ERINT selection. The committee accepts this judgment and believes that the new hit-to-kill approach is promising, though some level of risk remains (as the review board has pointed out).

The Navy lower tier interceptor utilizes the same, allegedly inferior, blast fragmentation approach that was explicitly and repeatedly rejected as the Army lower tier interceptor. This contradictory acquisition policy raises serious questions about the Navy lower tier option. The committee does not understand the Department's actions on these two programs and has received no satisfactory answers.

Theater Missile Defenses

The committee commends BMDO for its restructuring and consolidation of TMD programs, and endorses the priority shown in the funding request for near-term TMD systems. The committee also endorses the Department's selection of the ERINT missile as the Patriot PAC-3 interceptor. The committee takes note, however, of the comments by review panels that the ERINT program is not without technical risk. Therefore, in view of the importance of early deployment of improved TBM capabilities, the committee concludes that at the same time ERINT is entering the engineering and manufacturing development (EMD) phase, continued research and development on the multi-mode missile is a wise hedge against the possibility of technical problems with ERINT early in its EMD phase. The committee understands that some \$58.5 million is already available within the total PAC-3 request for risk-mitigation efforts, the bulk of which, DOD has informally indicated, is to be allocated to the multi-mode missile program.

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Therefore, the committee recommends the following specific amounts for the near-term TMD programs under BMDO purview:
—For Patriot PAC-3, including risk-mitigation funds, \$600.0 million;

—For the Navy lower-tier program, \$194.0 million;

—For a risk mitigation fund to accelerate development and deployment of TMD systems, \$75.0 million.

—For battle management, command, control, communications, and intelligence for TMD systems, \$34.1 million.

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In addition, the committee is concerned about the tension between the need for missile-defense equipped ships to remain close to shore to protect shore areas, and the need for these ships to stand off from shore to reduce their exposure to missiles and other shore-based fire. The committee believes that this tension and the warhead lethality issue must be resolved before this multi-billion dollar Navy lower tier program proceeds.

Accordingly, the committee recommends authorization of \$210 million in demonstration-validation research, development, testing and evaluation (RDT&E) to be focussed on selected theater missile defense risk reduction activities: the three lower tier theater ballistic missile approach (ERINT, Multi Mode, and Navy lower tier interceptors); and the sea-based wide area defense program. The committee directs the Secretary to use ERINT and Multi Mode funds to reduce risk in the PAC-3 program.

Section 233 would prohibit the Secretary of Defense from obligating these funds until 30 days after the Secretary provides the Congressional defense committees with a plan for allocating these funds. However, the Secretary should not obligate more than \$79.5 million for the Navy lower tier effort until the Secretary certifies to the congressional defense committees that a blast fragmentation warhead for a Navy lower tier defense interceptor is superior to a hit-to-kill lower tier warhead.

The committee further directs that funds for the Navy lower tier system should be used to determine the proper warhead lethality

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Funds contained in the risk mitigation fund may be used to increase funding for Patriot PAC-3 capabilities, including additional risk-mitigation activities, and for the acceleration of any or all of the follow-on TMD programs, at the discretion of the Secretary of Defense. Not less than 30 days prior to the obligation of any part of the risk mitigation fund, the Secretary shall inform the congressional defense committees of his proposed allocation of funds among the designated programs, including such funds as he may choose to reserve for subsequent obligation.

The committee has closely followed the selection of one of the two candidates—ERINT and multi-mode missile—for the PAC-3 system. We are pleased that the Department has finally completed the Defense Acquisition Board process and is moving to develop ERINT, the selected missile.

However, the committee recognizes that the multi-mode missile has substantial potential against various threats, especially cruise missiles and electronic countermeasures, that are worth developing in the context of the planned risk mitigation program. While the full scope of this program has not been finalized, the committee recommends that it include sufficient flight tests to validate these needed capabilities.

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approach for this program and the feasibility of adapting the Army lower tier interceptor for use on ships. The committee believes that the primary focus of the Navy lower tier program should be the interception of ballistic missiles and that program alternatives should be evaluated in this light. The committee notes that the Navy has other systems that address air breathing threats. The committee recommends no authorization of funds to begin procurement for the sea-based lower tier system.

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SECTION 232--THEATER MISSILE DEFENSE PROGRAMS

This section would authorize \$40 million to support the aggressive exploration of the Navy Upper Tier Program for Naval Theater Missile Defense. It also would direct the Secretary of Defense to initiate in fiscal year 1995 an accelerated Advanced Concept Technology Demonstration Program to demonstrate the Navy's Block IV Standard Missile with a kick stage rocket motor and the Exoatmospheric Projectile for Theater Missile Defense. The section also would set as the first priority of the Theater Missile Defense capability the deployment of a layered land-based capability consisting of the Patriot Advanced Capability (PAC-3) system and the Theater High-Altitude Area Defense (THAAD) system; and a layered sea-based Theater Missile Defense capability consisting of the Navy Lower Tier theater missile defense program and the Navy Upper Tier theater missile defense program.

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Ballistic missile defense programs (secs. 231, 233, and 235)

The Senate bill contained four provisions (secs. 221-224) that would deal with ballistic missile defense issues.

The House amendment also contained four provisions (secs. 221 and 231-233) that would cover similar or related issues.

The Senate report (S. Rept. 103-282) and House report (H. Rept. 103-449) also provided extensive guidance on ballistic missile defense (BMD) issues to the Ballistic Missile Defense Organization (BMDO).

The conferees explain in the following subsections their: broad policy guidance for ballistic missile defense research, development, testing, and deployment; concerns regarding the BMDO funding proposal for fiscal year 1995 and underlying long-term plans; resolution of those concerns; decisions and recommendations on programmatic and funding issues; and additional guidance on specific matters. Specific legislative provisions contained in this conference report will be discussed in the context of this guidance.

BROAD POLICY GUIDANCE

The conferees reiterate the broad policy guidance contained in the statements of the managers (H. Rept. 103-357 and H. Rept. 102-311) accompanying the National Defense Authorization Act for Fiscal Year 1994 and the Missile Defense Act of 1991 (10 U.S.C. 2431 note).

The conferees reaffirm that their highest priority for BMDO is the rapid development and early deployment of more effective theater missile defenses (TMD) designed to meet both existing and realistic near-term threats. In general, the conferees believe that an effective TMD capability will require a layered defense approach, using multiple systems.

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CONFEREES CONCERNS

NAVY LOWER TIER

The conferees note a major disparity in the Department's approach to the top priority mission of theater ballistic missile defense. Specifically, in the last year, the Department made an important decision concerning the type of warhead to be used in the Patriot PAC-3 defense system. This decision appears to undercut the Department's technical approach to the Navy's lower tier missile defense system and requires a more careful review of its priorities in theater missile defense.

The Department's senior multi-service PAC-3 review group stated unanimously "that the higher quality of protection provided by . . . hit-to-kill lethality, particularly against chemicals submunitions and nuclear weapons . . . could provide a decisive military advantage." Further, the Department chartered an independent review group to review the Army's choice. That group upheld the Army's findings. In affirming the independent review group's findings, the Department said that "hit-to-kill lethality is fundamentally superior against theater ballistic missiles (TBMs) with mass destruction warheads during critical phases of military operations." It termed the candidate lacking a hit-to-kill warhead " . . . relatively ineffective against such threats." More recently, the Army has stated " . . . that U.S. forces would suffer too many casualties to theater ballistic missile attack as a consequence" of selecting a blast-fragmentation warhead. If there were only a blast-fragmentation warhead interceptor available and no hit-to-kill interceptor—which is the case for Navy lower tier—the Army "would seek a different solution" rather than accept the interceptor with a blast-fragmentation warhead.

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The Department could hardly be more explicit about the superior lethality of hit-to-kill technology in theater missile defense. However, the conferees note that the planned Navy lower tier interceptor missile, the Standard missile block IV-A, does not use a hit-to-kill warhead. Instead, it uses the same class of warhead that was so emphatically rejected in the PAC-3 competition. The Navy's initial response to this issue was that its lower tier interceptor must also be effective in defending ships from sea-skimming cruise missile attack, against which the blast-fragmentation warhead would be effective. Yet BMDO presentations to Congress this year on the Navy lower tier made no mention of this mission. Later responses emphasized the ability of the block IV-A to cope with non-submunition threats, and remained silent about nuclear threats.

The conferees agree with and support the Department's rationale for the selection of ERINT and its hit-to-kill warhead for the PAC-3 system. However, the conferees are concerned about this fundamental contradiction in lethality approaches between the Patriot PAC-3 and the Navy lower tier system. Accordingly, the conferees are concerned that the Navy lower tier will be unable to provide adequate protection to amphibious landing areas or ports of debarkation against "ballistic missile attacks involving weapons of mass destruction"—the Department's own words for its reasons for designating it as a core TMD program. The conferees acknowledge that the Navy faces a large and growing threat from sea-skimming, anti-ship cruise missiles. The conferees also accept the Navy's judgment that the blast-fragmentation warhead planned for the Navy

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lower tier system offers superior lethality against that threat. The conferees note, however, that the Navy is developing a number of existing systems and programs that address the cruise missile threat to ships. The conferees further note that, for many short-warning scenarios, the Navy lower tier system may be the only TMD system available to defend U.S. forces in landing zones and ports from the growing theater ballistic missile threat. In these circumstances, the conferees require further assurances that the Navy lower tier system, by itself, can adequately protect U.S. troops going ashore until those troops can set up and make operable additional land-based TMD defenses. The conferees are unable to determine from information provided by the Department whether the proposed Navy lower tier configuration would adequately protect against the most stressing chemical submunition and nuclear warhead threats. This concern extends to the cooperative U.S.-Israeli ARROW/ACES program, which also relies on a blast-fragmentation warhead.

Some have suggested that the Standard block IV-A interceptor could be upgraded to embody hit-to-kill capability. The conferees are mindful that the Department concluded that "there were no reasonable upgrades" to the losing missile in the PAC-3 competition "that would substantially improve its performance against weapons of mass destruction."

Other options could possibly fill the requirement, though all have uncertainties. A marinized version of ERINT or the theater high altitude area defense (THAAD) system might be possible. Moreover, accelerating the CORPS SAM program might enable ex-

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peditionary forces to take their missile defense with them as they disembarked. If Patriot PAC-3 units could be prepositioned on LHDs or other appropriate ships, protection could be established on land within a matter of hours after arrival. Other options include pre-deploying PAC-3 systems to areas of possible engagement in advance of hostilities, and restricting initial landings to regions beyond the range of hostile TBMs.

The conferees have additional concerns related to this issue that are discussed in the classified annex to this statement of the managers.

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THEATER MISSILE DEFENSE

The conferees further agree to provide substantial funding for the highest priority TMD programs. The conferees, however, also agree to restrict the obligation of portions of those funds until a number of additional analyses are prepared and delivered to the congressional defense committees, and until the committees receive additional assurances that these funds are required.

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NAVY LOWER TIER

For the Navy lower tier system, the conferees agree to recommend \$140.0 million, a reduction of \$39.5 million from the requested amount. In addition, the conferees direct that only \$100.0 million be available for obligation until all of the following conditions have been met:

(1) an analysis of the lethality of the Navy lower tier blast-fragmentation warhead against the full threat spectrum used by the Army in the analysis of the two competing Patriot PAC-3 warheads has been conducted and the results reported to the congressional defense committees;

(2) an analysis of the lethality of a notional CORPS SAM system based on ERINT- and GBR-T-type hardware against the same threat spectrum and under the same ground rules as (1) above has been conducted, and the results have been provided to the congressional defense committees;

(3) an analysis of the feasibility of employing either CORPS SAM or Patriot PAC-3 fire units, in lieu of the Navy lower tier system, for defense of amphibious landing zones and ports of debarkation, has been conducted and the results provided to the congressional defense committees. The analysis should evaluate the feasibility of both early deployment to shore from task force ships and operation of such units from the deck of selected task force vessels, and should be conducted against the same threat spectrum and under the same ground rules as described in (1) above.

(4) an analysis of the most cost-effective replacement system or systems for ship self-defense against the low-observable, sea-skimming cruise missile threat, under the assumption that the Navy lower tier system was terminated at the end of fiscal year 1995, has been conducted, and the results have been provided to the congressional defense committees;

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(5) after review of the above analyses, the Chairman of the Joint Chiefs of Staff certifies in writing to the congressional defense committees that, in combination with other available TMD systems, the lethality of the planned Navy lower tier warhead provides an acceptable level of protection from the threat of chemical weapons submunitions for U.S. troops both at ports of debarkation and in amphibious landing operations, prior to the deployment, setup, and operation of land-based TMD systems; and

(6) after review of the above analyses, the Secretary of Defense certifies in writing to the congressional defense committees that proceeding with the planned Navy lower tier system is a cost-effective use of limited BMDO resources.

INDEPENDENT REVIEW

The conferees further direct the Secretary of Defense to reconstitute the independent review group originally established to review the Army's selection process for the Patriot PAC-3 interceptor missile decision (or to establish a similar group under the auspices of the Defense Science Board). This independent review group shall thoroughly review the lethality analysis required by item (1) of the "Navy lower tier" subsection above and the lethality analysis required in the "ARROW/ACES" subsection below. The results of their reviews, and their conclusions regarding the comparability of the analyses performed by the Department with the PAC-3 decision analysis, shall be provided to the congressional defense committees not later than 60 days after the Department completes the required lethality studies.

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PROCUREMENT

The conferees recommend fully funding the \$273.4 million
requestion for procurement.

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BALLISTIC MISSILE DEFENSE ORGANIZATION

NAVY TMD

The Ballistic Missile Defense Organization (BMDO) requested \$14,496,000 for Navy theater missile defense. The Committee recommends that these funds be denied, which is consistent with the direction of the House Armed Services Committee. Elsewhere in this report, the Committee directs BMDO to reconsider the technology used in Navy theater missile defense. Therefore, the Committee denies funds for initiating procurement of the system.

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Sea-based area TBMD (Navy lower tier).—The Committee provides \$149,056,000; adding \$49,056,000 to the House allowance but reducing the budget request by \$30,487,000. The Navy has initiated a cost and operational effectiveness analysis [COEA] to consider options for both the Navy upper and lower tier programs. The Committee continues to agree with DOD officials that the Navy Lower Tier Program should reduce the risk and prove the concept of sea-based theater ballistic missile defense. Thus, the Committee felt that adding funds for the Navy Upper Tier Program was not warranted. Similarly, the Committee felt that fully funding the budget request prior to completion of the COEA and further study of lethality issues was also not warranted.

The Committee recognizes that the Pacific missile range facility [PMRF] air, surface, and subsurface ranges and associated test and exercise infrastructure provide the unique capability to conduct virtually unrestricted test and evaluation in ideal conditions in support of the Defense Department, the armed services, the National Aeronautics and Space Administration, and U.S. friends and allies. Furthermore, the range is specifically equipped with the optical and radar tracking equipment, communications network, test control facilities, rocket launch infrastructure, and range support capability necessary to support tests of theater missile defense systems and concepts. Based on these unique assets and PMRF's demonstrated record of success, the Committee directs that the Pacific missile range facility [PMRF] shall be designated the primary test range for the completion of Navy lower tier and upper tier missile flight tests.

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BALLISTIC MISSILE DEFENSE

The Department requested \$2,979,855,000 for Ballistic Missile Defense research and development programs. The Committee recommends \$2,491,762,000 for the Ballistic Missile Defense Organization's (BMDO) research and development programs, a reduction of \$488,093,000. This level of funding is the same as proposed by the House Armed Services Committee. The Committee recommends specific changes in Ballistic Missile Defense Organization programs as detailed in the table below.

MODIFICATIONS TO BMD PROGRAM
(In thousands of dollars)

Project	Request	HASC	HAC	Change
PE 0602217	106,460	73,460	73,460	-33,000
Ballistic Missile Defense Technology				
PE 0603216	491,131	480,281	581,381	+102,250
Theater Missile Defense	17,750	40,000	120,000	+102,250
Sea-Based Wide Area Defense				
PE 0603217	769,993	584,393	444,283	-325,710
Ballistic Missile Defense Technology				
BPI	61,100	33,600	17,725	-43,375
ChemLaser	77,500	20,500	20,500	-57,000
Undistributed Reduction to NMD	0	0	-225,335	-225,335
PE 0604216	1,071,283	974,040	976,050	-95,233
Theater Missile Defense				
Patribot	69,240	0	69,240	0
ERINT	58,460	0	58,460	0
Lower Tier Risk Reduct	0	210,000	0	-210,000
THAAD	495,690	495,690	480,000	-15,690
Sea Based TMD INT	179,543	0	100,000	-79,543
PE 0603218	215,233	198,833	198,833	-16,400
Research & Support Activities				

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Battle management and C4I for TMD.—The Committee eliminates \$20,933,000 compared to the budget request and the House allowance, holding activities in this project to the fiscal year 1994 level. The recommendation provides \$12,567,000 to complete the highest priority C4I integration efforts.

First, a reduction of \$7,725,000 is proposed in the Corps Sam Program. The decrease includes \$1,900,000 to procure Government furnished equipment for a nonexistent program and \$5,825,000 for in-house and support contract efforts which were budgeted at a level exceeding the major contract value.

Second, the Committee directs that \$4,000,000 of the test and evaluation support funds shall be made available only to sustain the operations and support BMDO test activities at the Kauai test facility [KTF].

Third, a cut of \$22,962,000 in the engineering/integration support project is recommended. The budget request sought 255 percent real growth in these activities. BMDO provided no justification for such an excessive increase in support costs.

Fourth, a decrease of \$11,630,000 is proposed in the architecture and studies project. The following discrete decreases make up the total reduction: (a) \$5,000,000 from unspecified commanders in chief exercises; and (b) \$6,630,000 for functional analyses of upgraded approaches to sensors, command, control, communications, and intelligence capabilities, efforts which are premature until current baselines are established.

The Committee has provided the requested amount for the TMD Critical Measurements Program II [TCMP II]. The Committee expects BMDO to execute this program as planned at the funded level.

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The Committee is supportive of BMDO's theater missile defense programs. The Committee agrees with the House Armed Services Committee that the theater missile threat deserves top priority. Therefore, the Committee generally recommends funding theater missile defense programs at the budget request level.

The Committee is pleased with the selection of the Extended Range Interceptor (ERINT) missile as the interceptor for the PAC-3 system. The fiscal year 1995 budget request includes \$58,500,000 for risk reduction/mitigation. The PAC-3 Missile Review Board has pointed out that some level of risk remains, and that areas of concern include, but are not limited to: maneuvering re-entry vehicles; low latitude, low radar cross section cruise missiles; electronic counter measures and electronic counter-counter measures; and re-location of payload on threat vehicles.

Accordingly, the Committee directs that the risk reduction/mitigation efforts shall focus on the important task of adapting the PAC-3 missile to the Patriot system. This will include additional component testing and while no further launches of the integrated multi-mode missile will be conducted, this will not preclude multi-mode component testing on board aircraft. These efforts will insure the deployment of a fully capable PAC-3 system in fiscal year 1998.

The Committee agrees with the concerns of the House Armed Services Committee about the sea-based theater missile defense program. BMDO needs to reconsider using a hit-to-kill warhead rather than a blast fragmentation warhead. However, the Committee does not agree with the potential reduction to the sea-based theater missile defense program that could occur by including it in the lower tier risk reduction line. If ERINT risk reduction and Patriot demonstration/validation (the other two items included in the House Armed Services Committee's lower tier risk reduction effort) were fully funded, sea-based theater missile defense would receive less than half of its request. Therefore, the Committee recommends \$100,000,000 for sea-based theater missile defense.

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BMDO projects that the Corps SAM and sea-based wide area defense programs each need \$157,300,000 for development through 1999 and the BPI program needs \$372,300,000. Since BMDO also projects that its budget will be sufficient to support the acquisition of only one of these advanced capability programs, the Committee does not believe all three programs can be fully funded through development. In addition, the Bottom-Up Review emphasized Navy-upper tier rather than Corps SAM or BPI. Therefore, the Committee recommends \$17,725,000 for the BPI program, which is the same level of funding being provided to Corps SAM.

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Patriot.—DOD has decided to allocate \$92,000,000 to a risk reduction program which will include efforts on the extended range interceptor [ERINT] and the Patriot multimode missile. The Committee adds \$33,540,000 to the budget request of \$58,460,000 for ERINT efforts to fund the combined risk reduction program. The funds added include \$8,500,000 only to support enhanced Army participation in the Navy mountain top demonstrations to develop improved air defenses against cruise missiles. The Army is directed to include full funding in its fiscal year 1996 budget request to continue this more meaningful participation in the joint demonstration.

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STATUTORY LANGUAGE:
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PROCUREMENT, DEFENSE-WIDE

Amendment No. 86: Appropriates \$2,088,230,000 for Procurement, Defense-Wide instead of \$3,020,616,000 as proposed by the House and \$1,894,916,000 as proposed by the Senate.
The conference agreement on items in conference is as follows:
(In thousands of dollars)

	Budget	House	Senate	Quantity	Conference
PROCUREMENT, DEFENSE-WIDE:					
MAJOR EQUIPMENT, OSD/MHS	77,780	104,280	64,280		92,280
DARP	250,660	250,660	236,960		335,058
SUPERCOMPUTERS		130,000			90,000
ITEMS LESS THAN \$2 MILLION	74,010	24,010	74,010		74,010
AUTOMATED INFORMATION SYSTEM EQUIPMENT					
OTHER CAPITAL EQUIPMENT	15,402	10,402	15,402		15,402
ITEMS LESS THAN \$2 MILLION	28,531	23,531	28,531		28,531
JOINT BIOLOGICAL DEFENSE PROGRAM	4,000	2,000	4,000		4,000
NAVY TWO			3,000		20,416
C-130 MODIFICATIONS	14,496		14,496		14,496
MH-47/MH-60 MODIFICATIONS	65,661	58,361	65,661		58,361
PC CYCLOPE CLASS	10,666	5,966	10,666		10,666
CLASSIFIED PROGRAMS	12,380	18,180	12,380		34,280
MENTOR-PROTEGE PROGRAM	379,561	374,596	488,761		443,961
			40,000		30,000

THEATER MISSILE DEFENSE
LOWER TIER PROGRAM (CONTINUED)

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

STATUTORY LANGUAGE:

No language exists.

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PACIFIC MISSILE RANGE FACILITY

The conferees agree with the Senate direction and guidance with respect to the Navy's Pacific Missile Range Facility and its inclusion in the Defense Department's Major Range and Test Facility Base on its role in testing the Navy's ballistic missile defense systems.

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Patriot	286,440
Patriot PAC-3	69,240
ERINT	0
Patriot	217,200
ERINT/patriot risk reduction	74,000

THEATER MISSILE DEFENSE
LOWER TIER PROGRAM (CONTINUED)

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
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STATUTORY LANGUAGE:

No language exists.

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The conferees have agreed to provide \$74,000,000 for PAC-3 risk reduction/mitigation efforts, of which \$8,500,000 is only for enhanced Army participation in the Navy Mountain Top Demonstrations. The conferees further agree that the funding for risk reduction/mitigation efforts will not be used for further launches of the integrated multi-mode missile or the seeker; however, this will not preclude multi-mode component testing which is directly transferable to the PAC-3 missile selected, ERINT, on board aircraft. Finally, the conferees agree that the funds provided for the Mountain Top Demonstrations are not to be used for testing of either the multi-mode missile or seeker.

**THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES**

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

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SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; H.REPT. 103-282 (6/14/94)

BILL LANGUAGE

No bill language exists.

SEC. 233. THEATER MISSILE DEFENSE RISK REDUCTION AC-

TIVITIES.

(a) IN GENERAL.—Of the amount provided in section 201 for Defense-Wide Activities, \$210,000,000 is for theater missile defense risk reduction activities of the Ballistic Missile Defense Organization. None of such amount may be obligated for a program specified in subsection (b) until 30 days after the date on which the Secretary of Defense submits to the congressional defense committees notice of the Secretary's plans to obligate funds for such program.

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES (CONTINUED)

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(b) PROGRAMS.—*The programs referred to in subsection (a) are the following:*

- (1) *The Extended-Range Interceptor (ERINT) program.*
- (2) *The Multi-Mode Missile.*
- (3) *Sea-based lower tier systems.*
- (4) *Sea-based upper tier systems.*

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BILL LANGUAGE

No bill language exists.

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES (CONTINUED)

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Accordingly, the committee recommends authorization of \$210 million in demonstration-validation research, development, testing and evaluation (RDT&E) to be focussed on selected theater missile defense risk reduction activities: the three lower tier theater ballistic missile approaches (ERINT, Multi Mode, and Navy lower tier interceptors); and the sea-based wide area defense program. The committee directs the Secretary to use ERINT and Multi Mode funds to reduce risk in the PAC-3 program.

Section 233 would prohibit the Secretary of Defense from obligating these funds until 30 days after the Secretary provides the Congressional defense committees with a plan for allocating these funds. However, the Secretary should not obligate more than \$79.5 million for the Navy lower tier effort until the Secretary certifies to the congressional defense committees that a blast fragmentation warhead for a Navy lower tier defense interceptor is superior to a hit-to-kill lower tier warhead.

The committee further directs that funds for the Navy lower tier system should be used to determine the proper warhead lethality approach for this program and the feasibility of adapting the Army lower tier interceptor for use on ships. The committee believes that the primary focus of the Navy lower tier program should be the interception of ballistic missiles and that program alternatives should be evaluated in this light. The committee notes that the Navy has other systems that address air breathing threats. The committee recommends no authorization of funds to begin procurement for the sea-based lower tier system.

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The committee commends BMDO for its restructuring and consolidation of TMD programs, and endorses the priority shown in the funding request for near-term TMD systems. The committee also endorses the Department's selection of the ERINT missile as the Patriot PAC-3 interceptor. The committee takes note, however, of the comments by review panels that the ERINT program is not without technical risk. Therefore, in view of the importance of early deployment of improved TBM capabilities, the committee concludes that at the same time ERINT is entering the engineering and manufacturing development (EMD) phase, continued research and development on the multi-mode missile is a wise hedge against the possibility of technical problems with ERINT early in its EMD phase. The committee understands that some \$58.5 million is already available within the total PAC-3 request for risk-mitigation efforts, the bulk of which, DOD has informally indicated, is to be allocated to the multi-mode missile program.

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Therefore, the committee recommends the following specific amounts for the near-term TMD programs under BMDO purview:
—For Patriot PAC-3, including risk-mitigation funds, \$600.0 million;

—For a risk mitigation fund to accelerate development and deployment of TMD systems, \$75.0 million.

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES (CONTINUED)

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SECTION 233—THEATER MISSILE RISK REDUCTION ACTIVITIES

This provision would establish a theater missile defense risk reduction program within the program requested in fiscal year 1995 for the Ballistic Missile Defense Organization (BMDO) and would authorize \$210 million for that purpose. The extended-range interceptor (ERINT), the Multi-Mode Missile, sea-based lower tier systems, and sea-based upper tier systems selected by the BMDO would be eligible for additional funding from this authorization for risk reduction activities.

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Funds contained in the risk mitigation fund may be used to increase funding for Patriot PAC-3 capabilities, including additional risk-mitigation activities, and for the acceleration of any or all of the follow-on TMD programs, at the discretion of the Secretary of Defense. Not less than 30 days prior to the obligation of any part of the risk mitigation fund, the Secretary shall inform the congressional defense committees of his proposed allocation of funds among the designated programs, including such funds as he may choose to reserve for subsequent obligation.

The committee has closely followed the selection of one of the two candidates—ERINT and multi-mode missile—for the PAC-3 system. We are pleased that the Department has finally completed the Defense Acquisition Board process and is moving to develop ERINT, the selected missile.

However, the committee recognizes that the multi-mode missile has substantial potential against various threats, especially cruise missiles and electronic countermeasures, that are worth developing in the context of the planned risk mitigation program. While the full scope of this program has not been finalized, the committee recommends that it include sufficient flight tests to validate these needed capabilities.

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES (CONTINUED)

FY95 DOD AUTHORIZATION CONFERENCE REPORT
S.2182; H.REPT. 103-701 (8/12/94)

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PATRIOT PAC-3 RISK REDUCTION

The conferees strongly support the PAC-3 program, and believe that adequate risk-reduction funds should be made available to hedge against possible technical difficulties during the EMD phase of the program. In the conferees' view, adequate development funding for the ERINT interceptor that was selected for PAC-3 should be provided, and, as resources permit, funds for further development of selected technologies from the multi-mode missile should also be provided as a hedge against technical problems with comparable ERINT technologies. Given the priority they attach to the Patriot PAC-3 program, the conferees accept the need for both kinds of risk-reduction efforts.

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PATRIOT PAC-3 AND "RISK-REDUCTION"

The conferees recommend no funding for the two requested "demonstration/validation" (dem/val) activities labelled "ERINT," for which the requested amount was \$58.5 million, and "Patriot," for which the requested amount was \$69.2 million.

As a general matter, the conferees agree that "risk-reduction" activities should be focused on the selected system, preferably by

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES (CONTINUED)

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No language exists.

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S.2182; H.REPT. 103-701 (8/12/94)

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providing adequate development funds, rather than through the creation of special "risk-reduction" funds. Therefore, the conferees agree to recommend a total of \$284.7 million for Patriot PAC-3 EMD, including the transfer of \$69.2 million in dem/val funds labelled "Patriot" to the EMD line. None of these funds may be used for "risk-reduction" activities in connection with multi-mode missile (MMM) technologies.

The conferees recognize the advantage of investing in backups for particularly critical or risky ERINT technologies or components, if such funds can be reallocated from lower-priority programs. The conferees further agree to that, as a general matter, such risk-reduction activities should be reviewed annually, and the funding level should be based on the successful candidate's rate of technical progress.

The conferees were given a DOD "Information Paper" dated May 18, 1994, regarding the Defense Department's proposed three-year, \$84.8 million risk-reduction activity. That "Information Paper" recommended utilization of the requested \$58.5 million for "ERINT" dem/val for risk mitigation for selected technologies from both the MMM and the ERINT missiles. The conferees agree to recommend the transfer of the \$58.5 million requested under the "ERINT" dem/val account to a new line entitled "Patriot PAC-3 risk-reduction." This amount is only available for further research and development activities on selected MMM and ERINT technologies. The conferees direct that all funds allocated for risk-reduction on MMM technologies may only be obligated for technologies that are transferrable to the ERINT missile, in the event of technical difficulties with critical ERINT technologies. The conferees further direct that none of these risk-reduction funds be used for additional flight testing of the MMM interceptor missile during fiscal year 1995.

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES (CONTINUED)

FY95 DOD AUTHORIZATION CONFERENCE REPORT
S.2182; H.REPT. 103-701 (8/12/94)

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No language exists.

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The conferees were informally notified at a late stage of the conference that DOD is contemplating a significantly larger risk-reduction effort than is contained in the May 18, 1994 "Information Paper," one on the order of \$180.0 million. Neither funding details nor any rationale for such a significant increase in the need for risk-reduction was provided. The conferees agree that the relevant committees of jurisdiction should carefully review any such formal DOD risk-reduction proposal in the context of their consideration of the fiscal year 1996 defense budget request, and recommend that, if DOD deems the risk-reduction fund authorized above inadequate, it should submit a prior-approval reprogramming request during fiscal year 1995.

THEATER MISSILE DEFENSE
RISK REDUCTION ACTIVITIES (CONTINUED)

FY95 DOD AUTHORIZATION CONFERENCE REPORT
S.2182; H.REPT. 103-701 (8/12/94)

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No language exists.

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Theater missile defense risk reduction activities

The House amendment contained a provision (sec. 233) that would create a risk-reduction fund for theater missile defenses.

The Senate bill contained no similar provision.

The House recedes.

RISK REDUCTION ACTIVITIES

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No language exists.

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Accordingly, the Committee directs that the risk reduction/mitigation efforts shall focus on the important task of adapting the PAC-3 missile to the Patriot system. This will include additional component testing and while no further launches of the integrated multi-mode missile will be conducted, this will not preclude multi-mode component testing on board aircraft. These efforts will insure the deployment of a fully capable PAC-3 system in fiscal year 1998. The theater high altitude area defense (THAAD) system has experienced a schedule slip in its flight tests. The Committee believes that additional schedule slips are possible before resolution of negotiations with Russia and the other successor states to the Anti-Ballistic Missile treaty over whether the THAAD system and testing of the system is compliant with the treaty.

The Committee agrees with the concerns of the House Armed Services Committee about the sea-based theater missile defense program. BMDO needs to reconsider using a hit-to-kill warhead rather than a blast fragmentation warhead. However, the Committee does not agree with the potential reduction to the sea-based theater missile defense program that could occur by including it in the lower tier risk reduction line. If ERINT risk reduction and Patriot demonstration/validation (the other two items included in the House Armed Services Committee's lower tier risk reduction effort) were fully funded, sea-based theater missile defense would receive less than half of its request. Therefore, the Committee recommends \$100,000,000 for sea-based theater missile defense.

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 H.R. 4650; S. REPT. 103-321 (7/30/94)

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No language exists.

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Patriot.—DOD has decided to allocate \$92,000,000 to a risk reduction program which will include efforts on the extended range interceptor [ERINT] and the Patriot multimode missile. The Committee adds \$33,540,000 to the budget request of \$58,460,000 for ERINT efforts to fund the combined risk reduction program. The funds added include \$8,500,000 only to support enhanced Army participation in the Navy mountain top demonstrations to develop improved air defenses against cruise missiles. The Army is directed to include full funding in its fiscal year 1996 budget request to continue this more meaningful participation in the joint demonstration.

THEATER MISSILE DEFENSE
RISK REDUCTION REDUCTION ACTIVITIES (CONTINUED)

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H.R. 4650; H.REPT. 103-747 (9/26/94)

STATUTORY LANGUAGE:

No language exists.

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H.R. 4650; H.REPT. 103-747 (9/26/94)

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The conferees have agreed to provide \$74,000,000 for PAC-3 risk reduction/mitigation efforts, of which \$8,500,000 is only for enhanced Army participation in the Navy Mountain Top Demonstrations. The conferees further agree that the funding for risk reduction/mitigation efforts will not be used for further launches of the integrated multi-mode missile or the seeker; however, this will not preclude multi-mode component testing which is directly transferable to the PAC-3 missile selected, ERINT, on board aircraft. Finally, the conferees agree that the funds provided for the Mountain Top Demonstrations are not to be used for testing of either the multi-mode missile or seeker.



NATIONAL MISSILE DEFENSE

NATIONAL MISSILE DEFENSE

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National missile defense

As noted above, the committee is in general agreement with the Bottom-Up Review's (BUR) ballistic missile defense priorities. The BUR recommends expenditures for national missile defense of \$400 million per year, and \$200 million per year for the Brilliant Eyes sensor program.

The committee recommends denying the \$120 million request (within the BMDO) for Brilliant Eyes. However, the committee has recommended, in another portion of the bill, \$300 million for the satellite early warning assurance fund, of which \$120 million was derived from the Brilliant Eyes request. The committee recommends giving the BMDO the discretion to fund Brilliant Eyes, and the other alternatives described above, from this account. The committee has recommended authorization of \$400 million in other national missile defense programs as called for by the Bottom-Up Review.

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No language exists.

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Ballistic missile defenses

In the statement of managers accompanying the conference report (H. Rept. 103-357) on the National Defense Authorization Act for Fiscal Year 1994, the conferees endorsed the major focus of the Ballistic Missile Defense Organization (BMDO) on the near-term deployment of effective theater missile defense (TMD) systems. The conferees further noted that their support for the proposed national missile defense (NMD) program would rest on a clear demonstration that that program would reduce the lead-time for deployment of a limited NMD system in the event a missile threat to the United States were to emerge. The conferees further noted that their funding reduction from the BMD request to a level below the long-term average recommended in the Bottom-Up Review (BUR) was in part based on their judgment that BMDO and the Department of Defense had not made the case for the proposed thrust and funding of the full ballistic missile defense (BMD) program.

The committee believes BMDO has worked hard to restructure and reorient parts of the program in response to the detailed guidance provided last year. The committee, in particular, congratulates the Administration and BMDO for the well-structured TMD program that has emerged. The committee's major concerns this year pertain to the NMD program, to the overall efficiency with which requested funds would be applied, and to further narrowing the BMDO focus to the engineering aspects of soon-to-be-deployed systems. In effect, BMDO must complete the transition from the "star-wars" era of the 1980s and early 1990s, with its focus on technology exploration and development, to an organization that is largely focused on systems engineering to speed deployment of badly-needed defenses. While some of those transition efforts have begun, more is needed.

NATIONAL MISSILE DEFENSE (CONTINUED)

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National Missile Defenses

The committee continues to be troubled by the apparent inconsistencies in the Department's proposed NMD Technology Readiness proposal. In broad outline, it proposes to allocate \$3.0 billion over the next five years to this activity, including more than \$500 million for the development and deployment of prototype Brilliant Eyes (BE) satellites. No flight-test demonstrations of radar, intercept technology, or kill vehicle technology are envisioned. This leads the committee to question the value of early-deployed BE satellites to the NMD program, when, according to the BUR description of the option selected, by the end of the decade, "... it would take 10 to 15 years to deploy an operationally effective system ...". Thus, the committee does not believe the "Technology Readiness" program will serve to provide an adequate hedge against the possible emergence of a threat. CIA Director James Woolsey has testified that such a threat could arise on a timetable of eight to 15 years; yet the proposed program would leave us still 10 to 15 years away from effective defenses at the end of this decade. In addition, the threat could arise more rapidly than the intelligence community now projects.

BMDO and some contractors have suggested that BE could enhance the effectiveness of most TMD systems; however, no TMD funds are allocated to BE, and the TMD user community has not shown strong interest in BE availability. Moreover, for the wider area TMD systems, where BE arguably provides the greatest benefit, use of BE data may compound compliance problems. (For example, the committee is aware of contractor briefings purporting to show that Navy vessels with the upper tier capability plus BE tracking data could provide a thin defense of most of the continental United States from East Coast and West Coast ports.)

NATIONAL MISSILE DEFENSE (CONTINUED)

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Last year, the committee posed a number of questions regarding the Department's missile warning and tracking programs. The committee is not fully satisfied with the Department's response to the issues it raised. Accordingly, elsewhere in this report, the committee provides additional guidance regarding these matters. As one element of that guidance, the requested funding for BE of \$120.0 million is transferred to the Air Force, which shall also retain program management authority for fiscal year 1995.

The committee reluctantly accepts the lower priority placed on the NMD program, but does not accept the BMDO proposed "Technology Readiness" program or timetable. Given the limited resources allocated to NMD under the BUR, and the uncertain timing of a future threat, the committee believes BMDO should continue the development and testing of more mature demonstration technologies such as ERIS and LEAP, rather than focusing on further miniaturization of interceptors and kill vehicles. Since the scope of any contingency deployment is likely to be tens, rather than hundreds or thousands, of interceptors, continuing development of existing technologies seems a better strategy for a fiscally constrained environment. The objective for such an effort should be to develop and test, as rapidly as available NMD funding will permit, a limited, "JONES-type" capability using existing flight-qualified hardware, even though such hardware may not incorporate the latest "state-of-the-art" technology.

The ERIS booster and LEAP kill vehicle both have demonstrated substantial flyout and engagement ranges. Thus, one early focus for an NMD program would be to provide adequate tracking data. Adequate tracking of hostile reentry vehicles might be accomplished by any of several means—BE satellites, if deployed; upgraded BMEWS and PAVE PAWS radars; GSTS-type probes; or a self-contained optical tracking stage carried aboard an ERIS-type interceptor. The development of a fixed, land-based NMD radar

NATIONAL MISSILE DEFENSE (CONTINUED)

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should be matched to technical progress on the TMD ground-based radar.

The budget request for NMD activities was \$587.0 million; the transfer of BE to the Air Force reduces this level to \$467.0 million. The committee directs the Secretary of Defense to conduct a detailed review of the concept of building upon ERIS- and LEAP-type hardware to provide early flight-testing and an early availability of a "UOES-type" NMD capability, within a budgetary range of \$400-\$500 million per year. The Secretary shall provide to the congressional defense committees not later than March 1, 1995, a report on the results of his review, including comparisons of its cost and timetable with the Technology Readiness program proposed by BMDO.

Because of the need to develop a revised NMD program direction and milestones oriented toward early demonstration of a UOES capability, the committee recommends reducing the request by an additional \$67.0 million. The committee expects the Department to request funding consistent with the BUR projections for the NMD program for fiscal year 1996, and to reflect a robust NMD program in the next Future Years Defense Program.

NATIONAL MISSILE DEFENSE (CONTINUED)

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No language exists.

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Ballistic missile defense programs (secs. 231, 233, and 235)

The Senate bill contained four provisions (secs. 221-224) that would deal with ballistic missile defense issues.

The House amendment also contained four provisions (secs. 221 and 231-233) that would cover similar or related issues.

The Senate report (S. Rept. 103-282) and House report (H. Rept. 103-449) also provided extensive guidance on ballistic missile defense (BMD) issues to the Ballistic Missile Defense Organization (BMDO).

The conferees explain in the following subsections their broad policy guidance for ballistic missile defense research, development, testing, and deployment; concerns regarding the BMDO funding proposal for fiscal year 1995 and underlying long-term plans; resolution of those concerns; decisions and recommendations on programmatic and funding issues; and additional guidance on specific matters. Specific legislative provisions contained in this conference report will be discussed in the context of this guidance.

In the statement of the managers accompanying the National Defense Authorization Act for Fiscal Year 1994, the conferees endorsed as second in priority the development of a "hedging" strategy for national missile defenses (NMD), to ensure the availability of proven, flight-tested hardware should a missile threat to the United States arise more rapidly than is currently forecast. The conferees emphasized the importance of reduced lead-times for deployment of a very limited, prototypical, defense capability on very short notice against a quantitatively limited, long-range "rogue"

NATIONAL MISSILE DEFENSE (CONTINUED)

FY95 DOD AUTHORIZATION CONFERENCE REPORT
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No language exists.

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missile threat. In the budget request for fiscal year 1995, BMDO has proposed a series of development "epochs" for NMD hardware. Each "epoch" would emphasize further development, refinement, and cost-reduction of component technologies for NMD systems, but the BMDO proposal contains few system-level or "end-to-end" flight-test intercept demonstrations over the next several years and none during fiscal year 1995. In addition, BMDO delayed for one year the initiation of flight tests of exoatmospheric kinetic kill vehicle prototypes—a key element of an NMD system—in order to complete fabrication and launch of the midcourse space experiment. The conferees find the BMDO approach inadequate to ensure the availability of proven hardware should an unanticipated strategic missile threat emerge.

Last year the conferees agreed that BMDO should focus more funding and management attention on these higher priorities, de-emphasize generic, technology-base R&D, and transfer far-term technologies back to the services and defense agencies. The conferees were disappointed that the BMDO budget proposal still devoted more than 25 percent of BMD funding to lower-priority activities. As noted above, the conferees intend to vigorously support the development of selected follow-on TMD systems, and believe this can only be done if the level of effort and funding for lower-priority programs, projects, and activities is reduced.

NATIONAL MISSILE DEFENSE (CONTINUED)

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NATIONAL MISSILE DEFENSE

The conferees agree to recommend \$400 million for the NMD program. The conferees emphasize the importance of demonstrating, on an accelerated basis, the potential effectiveness of a national missile defense system through realistic flight testing. In this regard, the conferees endorse the guidance contained in the Senate report (S. Rept. 103-282) that: "The objective [for the NMD program] should be to develop and test, as rapidly as available NMD funding will permit, a limited, 'UOES-type' capability using existing flight-qualified hardware, even though such hardware may not incorporate the latest 'state of the art' technology." The conferees direct the Secretary of Defense, in consultation with the Chairman of the Joint Chiefs of Staff, to review the fiscal year 1996 and Future Years Defense Program (FYDP) funding and programmatic content of the BMDO NMD technology readiness program, and to make any changes necessary to ensure BMDO compliance with this guidance.

The conferees also direct the Secretary, in consultation with the Chairman, to study the BMDO plans for fielding a limited "UOES-type" NMD capability against a variety of postulated threats. Within the overall BUR funding guidance to NMD in fiscal year 1996 and throughout the FYDP, the study shall consider those programmatic changes and reallocations of funds among NMD projects within the BMDO NMD technology readiness program that would minimize the lead-time to field an adequate defense of the United States against a quantitatively limited missile threat that could emerge at the end of the years 2000, 2005, and 2010, respectively. For the purpose of the study, the Secretary shall assume that the United States would receive reliable warning of a rogue missile threat three years in advance of each date mentioned, and that appropriate budgetary adjustments to respond to the threat would be made once reliable warning had been received. For each such threat date and set of assumptions, the Secretary shall estimate the date by which effective defenses of (a) the continental

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United States and (b) all 50 states against a limited strategic threat could achieve a limited operating capability. The report, in both classified and unclassified forms, shall be provided to the congressional defense committees not later than March 1, 1995.

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The Committee recommends an undistributed reduction to national missile defense programs of \$225,335,000 due to budget constraints and the lower priority of these programs.

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National missile defense.—Based on information provided by BMDO, the Committee has consolidated all national missile defense [NMD] technology readiness efforts in a new program element. The Committee provides \$400,000,000, a reduction to the consolidated budget request of \$187,062,000 and an amount \$158,273,000 above the House recommendation. The Committee's actions reflect the following reductions: (a) \$10,000,000 for radar technology based on the deferral of the activities planned under the original budget request; (b) \$13,000,000 allocated to develop an infrared sensor for the airborne warning and control system [AWACS], an effort which is premature until a related development effort is allowed to proceed; (c) \$9,000,000 for pilotline experiment technology [PET] efforts which have been altered by the loss of a key participant; (d) \$3,000,000 sought for unjustified survivability efforts on the now deferred NMD system; (e) \$32,062,000 of the funds designated to continue the invalid expenditure of roughly \$60,000,000 per year on an NMD battle management/command, control, and communications [BM/Cs] system, including the specific elimination of \$25,000,000 to begin development of a block 1 BM/Cs system; (f) \$120,000,000 in brilliant eyes funds which have been transferred to a new Alert, Locate, and Report [ALARM] Demonstration and Validation [Dem/Val] Program.

Ground based radar—theater missile defense [GBR-TMD].—The Committee has increased the budget amount, and the House allowance, for GBR-TMD by \$20,000,000 to provide a total of \$193,200,000. Termination of the national missile defense radar [GBR-NMD] has resulted in increased infrastructure and technology support requirements being levied on the GBR-TMD effort. To ensure the availability of radar systems to support THAAD flight tests, the Committee provides the necessary increase in program funds.

NATIONAL MISSILE DEFENSE (CONTINUED)

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National missile defense	400,000
Passive sensors	24,500
Radar	0
Signal processing	7,100
Discrimination	29,382
Sensor studies and experiments	45,130
Interceptor component technology	8,210
KKV technology	120,000
Computer engineering tech	2,500
Communications engineering tech	500
Survivability	0
Materials and structure	5,000
Ground-Based Radar	8,000
BM/C3 technology	24,438
Engineering/integration support	18,977
Operations interface	1,530
Test & Evaluation support	93,697
Operational support	11,036
Brilliant eyes	0
Undistributed reduction to NMD	0



TECHNOLOGY PROGRAMS

TECHNOLOGY PROGRAMS

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Technology base

In addition to the funding modifications described above, the committee recommends specific changes in the technology base program supporting the Ballistic Missile Defense Organization as detailed in the table below. All other projects within the technology base program are recommended for authorization at the requested levels.

MODIFICATIONS TO BMD TECH BASE PROGRAM

No. and project	Request	Recommended	Change
PE 603216C			
1105 Discrimination	58.1	48.1	(10.0)
1216 Navylapptier	17.75	40.0	22.25
1501 Survivability	4.9	3.8	(1.1)
1502 Lethality/Tgt	32.8	26.8	(6.0)
3101 EngineerinSup	45.6	41.6	(4.0)
3201 ArchStudy	42.2	42.2	(0.0)
3300 T&E Support	163.9	163.9	(0.0)
Subtotal			1.15

Follow-on Technologies

BMDO funds and oversees numerous important high-technology programs within the follow-on technologies program element; some, such as high-energy laser research, are unique within the Department of Defense. However, the cost of follow-on technologies, in terms of program management and other BMDO resources, is high, and some of these programs tend to be "lightning-rods" for opponents of robust ballistic missile defenses. For this reason, for the past two years, the committee and the Congress have been urging the Secretary of Defense to transfer from BMDO to other agencies those research activities on technologies that may prove to be relevant to advanced missile defense concepts, but that have no prospect of reaching engineering and manufacturing development within the next decade or two. The Secretary, however, has transferred only a handful of projects; \$409.0 million is still requested for this program area.

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PE 603217C

1101	Passive Sensors	24.5	14.5	(10.0)
1102	Radar	5.0	5.0	(5.0)
1106	Sens/Side/Ext	48.6	38.6	(10.0)
2300	BMC3	56.5	39.5	(17.0)
3300	T&E Suppl	103.1	78.0	(25.1)
1215	BPI	61.1	33.6	(27.5)
1302	Chem/Laser	77.5	20.5	(57.0)
1305	AI/DFC	12.5	6.5	(6.0)
3203	Intel Threat	8.1	6.1	(2.0)
3204	Integration	18.3	14.3	(4.0)
3206	Syst Threat	6.9	4.9	(2.0)
4000	Operational Support	48.0	28.0	(20.0)
Total				(185.6)
4000	Mgmt/Suppl	215.2	198.8	(16.4)
PE 603218C				

Additional matters

Finally, the committee continues to support the joint U.S.-Russian space research effort known as RAMOS (Russian-American Observational Satellites). The effort should have substantial defense and environmental benefits, and should assist in tearing down Cold War barriers. Therefore, the committee recommends that \$10 million be made available for RAMOS within program management agreement (PMA) 1106.

The committee also recommends that by February 1, 1995, and for the next five years, the Director of the Ballistic Missile Defense Organization should provide a report to the congressional defense committees on any contracts or agreements BMDO plans to sign or enter into on a noncompetitive basis with a national laboratory for suborbital launch services in the next fiscal year. The report should include a justification for seeking noncompetitive services, a description of the launch vehicle, and an outline of all costs associated with the launch.

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Transfer of these programs to other agencies requires two actions by the Department. One, involving transferring program responsibilities and funding, is easily accomplished. The other, insuring that the recipient agency protects the program and adequately funds it, is harder, and requires firm OSD oversight. Nonetheless, as BMDO moves inevitably toward an engineering development and deployment agency, its efforts need to be focused increasingly on those critical BMD tasks. The committee again strongly urges the Secretary to continue the transfer of far-term follow-on BMD technologies from BMDO to other Services and agencies, and to ensure that they continue to receive high priority once transferred.

The committee notes that the statement of managers accompanying the conference report on the National Defense Authorization Act for Fiscal Year 1994 (H. Rept. 103-357) required the Department to develop a coherent management plan for high-energy laser research programs. That plan has not yet been provided to the committee. The committee, nonetheless, believes a focal point out-

TECHNOLOGY PROGRAMS (CONTINUED)

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Center for adaptive optics

The committee recommends an additional \$5 million in PE 601103D to complete the university research initiative for the technology transfer of adaptive optics that was started in fiscal year 1993. Adaptive optics, which has been pursued by the Ballistic Missile Defense Organization and the Office of Naval Research, is applicable to research oriented ground based general astronomy. The committee encourages the Secretary to be more expedient in awarding this program.

Cobra ball

The budget request did not include research and development funding for the RC-135 Cobra Ball program. To enhance intelligence support to the warfighter, the committee recommends an additional \$13.646 million in PE 305154D for the infrared Acquisition Array. These enhancements will enable the RC-135 Cobra Ball aircraft to provide a wide spectrum of essential technical data in direct support of nonproliferation objectives, treaty verification, and intelligence requirements that include ensuring a high fidelity theater missile defense data base.

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side BMDO should be established to develop a national technology base in high-energy laser research and development to meet a broad spectrum of possible military missions, not just ballistic missile defenses. Accordingly, the committee recommends the transfer of \$50.0 million to a new high-energy laser research line-item. The Secretary of Defense shall assign management responsibility for these funds to an appropriate military Service or defense agency other than BMDO. The committee encourages consolidation of this high-energy laser program with other programs, should the Secretary's ongoing review so recommend.

The request for follow-on technologies was \$409.0 million; in addition to the transfer of \$50.0 million for high-energy laser research, the committee recommends a reduction of \$89.0 million to the request.

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Mercury cadmium telluride

The committee is aware that the Department is testing mercury cadmium telluride (MCT) detectors and notes its superior performance at room temperatures, thus eliminating expensive low temperature environment packages. The committee directs the Secretary of Defense to evaluate past Army, Air Force and Ballistic Missile Defense Organization MCT tests, and to perform additional tests of these detectors for infrared focal plane arrays and other detector applications such as explosive material detection. The Secretary shall report the findings to the congressional defense committees not later than February 1, 1995. The committee recommends adding an additional \$1 million in PE 602712E for this evaluation.

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The committee notes that the BMDO is seeking more funding for space-based laser research than it is for atmospheric-based boost-phase interception, priorities with which the committee does not concur.

The Department has not presented the committee with persuasive evidence that the Department's overall priorities in this area are proper. Accordingly, the committee has recommended authorization of \$33.6 million for boost-phase interception RDT&E, a \$27.5 million reduction from the requested level. The committee has also recommended authorization of \$20.5 million for chemical laser research, a \$57.0 million reduction. The committee further recommends that the Secretary use this funding for atmospheric and ground based laser approaches.

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WALLOP (R-WY) FLOOR AMENDMENT
SPACE-BASED CHEMICAL LASER PROGRAM

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SEC. 224. MANAGEMENT AND BUDGET RESPONSIBILITY
FOR SPACE-BASED CHEMICAL LASER PRO-
GRAM.

(a) FINDINGS.—Congress makes the following find-
ings:

(1) In section 243 of the National Defense Au-
thorization Act for Fiscal Year 1994 (Public Law
103-160; 107 Stat. 1615) Congress directed the
Secretary of Defense to transfer management and
budget responsibility for research and development
regarding far-term follow-on technologies from the

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SPACE-BASED CHEMICAL LASER PROGRAM (CONTINUED)

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Ballistic Missile Defense Organization unless the Secretary certifies that it is in the national security interest of the United States for the Ballistic Missile Defense Organization to retain that responsibility.

(2) For purposes of section 243 of such Act, a far-term follow-on technology was defined as any technology that is not incorporated into a ballistic missile defense architecture and is not likely to be incorporated within 15 years into a weapon system for ballistic missile defense.

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SPACE-BASED CHEMICAL LASER PROGRAM (CONTINUED)

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(3) The Secretary of Defense has recommended pursuant to section 243 of such Act that management and budget responsibility for chemical laser technology be retained in the Ballistic Missile Defense Organization.

(b) ASSIGNMENT OF RESPONSIBILITY.—Subject to subsection (c), the Ballistic Missile Defense Organization is authorized to retain management and budget responsibility for chemical laser technology programs.

(c) REQUIREMENTS.—(1) The Director of the Ballistic Missile Defense Organization shall ensure that, to the

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SPACE-BASED CHEMICAL LASER PROGRAM (CONTINUED)

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extent practicable, the conduct of research and development related to space-based chemical lasers reflects appropriate consideration of a broad range of military missions and possible nonmilitary applications for such lasers.

(2) If, as a result of budgetary limitations, the Director of the Ballistic Missile Defense Organization is unable to program sufficient funds to ensure that the space-based chemical laser program remains an option for the acquisition process within the next fifteen years, the Secretary of Defense shall—

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SPACE-BASED CHEMICAL LASER PROGRAM (CONTINUED)

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(A) establish a new high energy laser research

and development program outside of the Ballistic

Missile Defense Organization;

(B) transfer \$50,000,000 out of funds available

for fiscal year 1995 for programs administered by

the Ballistic Missile Defense Organization to the

new high energy laser research and development pro-

gram; and

WALLOP (R-WY) FLOOR AMENDMENT
SPACE-BASED CHEMICAL LASER PROGRAM (CONTINUED)

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(C) assign the duty to perform the management and budget responsibilities for the new program to the Secretary of the military department determined by the Secretary of Defense most appropriate to perform such responsibilities or, if the Secretary determines more appropriate, to the head of the Defense Agency of the Department of Defense that the Secretary determines most appropriate to perform such responsibilities.

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Advanced concept and technology demonstration (ACTD) program
The budget request contained \$50.0 million for the advanced concept and technology demonstration (ACTD) program.
The Senate bill would provide \$50.0 million in PE 63750D for the ACTD program.

The House amendment recommended a reduction of \$25.0 million in the requested amount, because of a need to gain an understanding of the program plans for the individual technologies and advanced development projects selected for the ACTD program.

The conferees strongly endorse the views expressed in the House report (H. Rept. 103-499) on the value of the ACTD initiative. By involving the material developer and the military operational user in the development and demonstration of emerging advanced technologies and, when appropriate, fielding the newly demonstrated capability in limited numbers, ACTD can improve understanding of the military utility of the technology, validate operational concepts for the technology's use in the field, and break the lock-step of the traditional acquisition process. In this way, the development and fielding of new advanced technologies of proven military operational utility would be accelerated.

Because of the limited funding for the ACTD initiative recommended by the Appropriations Committees of the Senate and House of Representatives, the conferees agree to an authorization of only \$19.1 million for the ACTD initiative. The conferees believe, however, that a higher funding level is both justified and required to capitalize on the ACTD initiative and would consider authorizing a higher amount, should the Appropriations Committees so recommend in their conference on the fiscal year 1995 defense appropriations bill.

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Cobra Ball upgrade

The budget request contained no research and development funding for the RC-135 Cobra Ball program.

The Senate bill contained no funding for the program.

The House amendment contained \$13.646 million in PE 35154D for the infrared acquisition array.

The conferees recommend \$13.6 million to upgrade the active ranging system, infrared acquisition sensor, and data processing capabilities. Enhancement of these capabilities is essential in order to provide adequate standoff range for collection of information on short-range ballistic missile systems and to provide data fusion for onboard sensors. The conferees request the Department to provide a report to the congressional defense committees on its plans and future funding for the Cobra Ball program.

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Last year the conferees agreed that BMDO should focus more funding and management attention on these higher priorities, de-emphasize generic, technology-base R&D, and transfer far-term technologies back to the services and defense agencies. The conferees were disappointed that the BMDO budget proposal still devoted more than 25 percent of BMD funding to lower-priority activities. As noted above, the conferees intend to vigorously support the development of selected follow-on TMD systems, and believe this can only be done if the level of effort and funding for lower-priority programs, projects, and activities is reduced.

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OTHER BOOST-PHASE TECHNOLOGIES

In addition to the BPI program contained in the BMDO follow-on TMD category, funds for three boost-phase intercept concepts were also included in the budget request; the BMDO space-based laser program; the Air Force airborne laser program; and the Air Force air-launched kinetic-kill boost-phase interceptors. Funds requested for these four concepts exceeded \$210.0 million. The congressional defense committees have all concluded that this level of funding is unsupportable. Clearly, the number of BPI approaches vying for scarce funds must be reduced so that significant progress can be made on one or two realistic concepts.

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BOOST PHASE INTERCEPT PROGRAMS

The requested amounts for BPI programs in both BMDO and the Air Force totalled \$210.6 million. Both the Senate bill and the House amendment would provide substantial funding for all BPI programs. The conferees are disappointed that both the Senate and the House defense appropriations bills have sharply restricted funding for BPI programs to \$90.0 million or less. Given this constraint, the conferees recommend \$30.0 million within the BMDO budget for high-power laser research. These funds may only be used to complete the integration of the Alpha laser, LAMP optics,

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and LODE beam control in such a way as to maximize the utility of the results for tactical applications of chemical lasers. The conferees also direct that the funds may not be used to initiate or carry out any work on the shield integration facility or any space-craft-related activity. The conferees intend that the space-based portion of the chemical laser program end upon completion of the Alpha LAMP integration.

Of the remaining funds for BPI programs within the appropriations ceilings, the conferees recommend \$20.0 million for the Air Force's airborne laser program, and \$40.0 million for the BMDO boost phase intercept program. No funds are recommended for the boost phase intercept program contained within the Air Force's "theater missile defense" program element.

The conferees are disappointed with the Defense Department's overall effort to manage high-power laser research for tactical applications. The high-power laser guidance report, submitted by the Department in June 1994, does not outline an integrated departmental program for tactical application of high-power lasers. The conferees are concerned that this technology base is slowly withering away outside the Air Force, the one service providing significant support. The conferees, therefore, direct that the high-power laser program guidance be updated by March 31, 1995, with a view toward sustaining a technology base in high-power lasers for Army, Navy, and Air Force tactical applications. The conferees expect an integrated DOD high-power laser program to be reflected in the fiscal year 1996 request for the DOD science and technology base.

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*Management and budget responsibility for space-based chemical
laser program*

The Senate bill contained a provision (sec. 224) that would provide guidance regarding the space-based chemical laser program.
The House amendment contained no similar provision.
The Senate recedes.

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Clementine

The Committee believes that management of the Clementine I project should remain at the existing facilities as management responsibility shifts from the Ballistic Missile Defense Program to the military services. If the Department proposes to continue the Clementine program by using different DOD facilities to manage the program, the existing facilities should be permitted to compete for the opportunity to continue managing the program. However, no funds were requested by DOD for additional Clementine satellites and no funds have been provided.

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The Committee recommends \$20,500,000 for the chemical laser program, a decrease of \$57,000,000, due to budget constraints. The House Armed Services Committee provided the same level of funding for this program.

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Fourth, \$13,000,000 is added to this program element from the Air Force "Procurement" account for medium launch vehicles. The transferred funds were budgeted to continue the purchase of a now canceled Delta II booster. These funds are provided to continue operations of the miniature sensor technology integration [MSTI] satellites 2 and 3. Responsibility for the MSTI Program has been transferred to the Air Force from the Ballistic Missile Defense Organization, and these funds will allow the Air Force to implement its plan to operate and acquire data from the existing MSTI satellites. No funds are provided for further procurement of MSTI satellites until the Air Force develops a plan for future, competitive space-based sensor experiments.

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Follow-on technologies.—The recommended funding level of \$297,737,000 for consolidated technology efforts which support current and future TMD systems represents a decrease of \$111,654,000 to the budgeted amount and an allocation of \$21,721,000 above the House. The actions comprising the Committee's recommendations are outlined in the text which follows.

First, \$38,000,000 budgeted for a new effort to develop and evaluate advanced sensor concepts is eliminated. While still refining program plans, BMDO anticipates an unsupportable \$500,000,000 program to provide a follow-on sensor for the Boost Phase Intercept [BPI] Program.

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ADVANCED CONCEPTS TECHNOLOGY DEMONSTRATIONS (ACTDS)

The Department requested \$50,000,000 for an OSD fund to augment service R&D programs that are designated as advanced concepts technology demonstrations. The Committee recommends that these funds be denied. The Committee is not opposed to ACTD programs per se, but does not agree to provide funding for them in multiple locations within the Defense budget.

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Second, the Committee has deleted \$61,100,000 for the Kinetic Energy BPI Program; \$77,500,000 for the space-based laser [SBL] BPI project; \$52,000,000 in Air Force RDT&E funds also budgeted for the Kinetic Energy BPI Program; and \$20,000,000 in Air Force RDT&E funds budgeted for the Airborne Laser BPI Program. The Committee believes that three costly BPI programs, all of which lack full out-year funding, are unaffordable. In a defense budget which already is underfunded by roughly \$20,000,000,000, the Committee believes the use of limited research and development funds to pursue all three BPI concepts is unwise.

The Committee provides \$90,000,000 in a consolidated program with the expectation that DOD will have to make difficult, but necessary, choices between competing BPI concepts. The Committee directs that BMDO provide a plan for these funds prior to obligating any amounts. The House provided \$17,725,000 for kinetic energy BPI and \$20,500,000 for the SBL BPI effort but did not consolidate BPI projects.

The Committee urges that consideration be given to a joint United States-Israel Boost Phase Intercept Program. The Committee recommends that up to \$15,000,000 of BPI funds may be used for such a joint program provided that the Secretary of Defense provides the following certifications to the congressional defense committees: (a) the United States and Israel have entered into an international agreement governing the conduct and funding of such a joint effort; and (b) the projects will have specific, direct benefits for the United States.

TECHNOLOGY PROGRAMS (CONTINUED)

HOUSE FY95 DOD APPROPRIATIONS BILL
H.R. 4650; H.REPT. 103-562 (6/27/94)

REPORT LANGUAGE

SENATE FY95 DOD APPROPRIATIONS BILL
H.R. 4650; S. REPT. 103-321 (7/30/94)

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Third, the Innovative Science and Technology Program is allocated \$41,510,000, a reduction of \$18,490,000 compared to the budget request and the House allowance. The proposed funding level maintains these activities at the fiscal year 1994 level while acknowledging a reduced need for BMDO high-risk technology efforts.

Last, the small business innovative research project is reduced by \$6,564,000, to reflect the proportionate reduction in the overall BMDO Program budget.

The Committee also notes its concern about the contracting approach used to purchase Topaz II reactors from Russia. The DOD has accepted delivery of four reactors without adequate funds to pay for the systems. The Committee directs BMDO not to enter into any future contracts which irreversibly obligate Congress to appropriate funds.

The Committee understands that the Topaz II project may be transferred to the Defense Nuclear Agency [DNA]. In the event of this shift, the Committee directs DNA to preserve the integrity of the Topaz II Space Power Program and to provide for its continuation in the 1996 budget request.

The Committee notes the opportunities presented by the Russian-American observation satellite [RAMOS] initiative, and specifies that not less than \$1,000,000 shall be available only for this effort. This amount reflects only the minimum investment that DOD should dedicate to this program. The goals and objectives of RAMOS are consistent with the authorized purposes of the Nunn-Lugar, SERDP, and dual use technology programs. The Committee urges the Department to consider application of funds from these accounts to expand DOD participation in RAMOS for fiscal year 1995.

Finally, the Committee understands that responsibility for the Clementine Program has been transferred to the Air Force from BMDO. The Committee directs that all unobligated funds originally allocated to the Clementine project be transferred from BMDO to the Air Force.

TECHNOLOGY PROGRAMS (CONTINUED)

HOUSE FY95 DOD APPROPRIATIONS BILL
H.R. 4650; H. REPT. 103-562 (6/27/94)

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Airborne laser technology; theater missile defense.—The Committee recommends the transfer of the full amount requested for development of airborne laser technology, \$20,000,000, to the combined boost phase intercept [BPI] project established within the Ballistic Missile Defense Organization [BMDO] Follow-On Technologies Program element. The House fully funded the budget request in this Air Force program element.

Similarly, the Committee also transfers the full \$52,000,000 sought for an ascent phase demonstration under this theater missile defense program element to the BMDO Program. The Committee's views are further detailed in the discussion contained in the "RDT&E, defensewide" section of this report.

The Committee provides \$17,002,000 in the Air Force theater missile defense program element, adjusting the budget request downward by \$62,300,000 and providing \$10,300,000 less than the House allowance. The funding recommendation implements the following actions: (a) deletes \$52,000,000, as noted above, to effect the transfer of the Boost Phase Intercept [BPI] Program into the Ballistic Missile Defense Organization [BMDO]; (b) adds \$4,700,000 transferred to this program element from the Advanced Research Projects Agency [ARPA]; and (c) denies \$15,000,000 as discussed under the high gear entry within this section of the report.

TECHNOLOGY PROGRAMS (CONTINUED)

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

STATUTORY LANGUAGE:
No language exists.

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

REPORT LANGUAGE

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Follow-on Technologies	225,037
Adv sensor tech	10,000
Boost phase intercept—KE	0
Chemical laser technology	30,000
Combined BPI program	0
ATP/FC Demo	12,500
Power & power conditioning	10,000
Materials and structure	2,000
Innovative Science & Technology (IS&T)	41,510
SBIR	39,896
Undist reduction—IS&T, SBIR	0
Environment, siting & facilities	5,606
Architecture & studies	8,000
Intelligence threat development	8,050
Countermeasures integration	18,303
System threat	6,890
Test & evaluation support	9,400
Operational support	16,020
Technology transfer	2,862
Russian-American observational satellites (RAMOS)	1,000
U.S.-Israel Boost Phase Intercept	3,000

TECHNOLOGY PROGRAMS (CONTINUED)

FY95 DOD APPROPRIATIONS CONFERENCE REPORT

H.R. 4650; H.REPT. 103-747 (9/26/94)

STATUTORY LANGUAGE:

No language exists.

FY95 DOD APPROPRIATIONS CONFERENCE REPORT

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The conferees have provided an increase of \$3,000,000 only to pursue activities under a joint United States-Israel Boost Phase Intercept program. The conferees agree that these funds may be used once the Secretary of Defense provides the following certifications to the congressional defense committees: (a) the United States and Israel have entered into a contractual effort; and (b) the projects will have specific, direct benefits for the United States.

EXPERIMENTAL EVALUATION OF MAJOR INNOVATIVE TECHNOLOGIES

The conferees agree to provide \$683,971,000 and have restored funds for the Dragnet, Clipping Service, and Monitor projects. The conferees are encouraged by the Advanced Research Projects Agency's (ARPA) plans to use existing radar systems in these development efforts. The conferees direct ARPA to continue to work in conjunction with the services on these programs.

The conferees have provided \$3,750,000 for the Global Positioning System (GPS) Guidance Package (GGP). The conferees direct that no funds may be spent on GGP Phase II efforts until the controlled field demonstration of the Phase I GGP as an integrated Fire Support Team (FIST) Mission Equipment (FME) subsystem is completed.

The conferees agree to provide \$12,000,000 only to continue the casting emissions project, which is a joint project including The Advanced Manufacturing Technology Center at McClellan Air Force Base, the Far West Federal Technology Centers, and the U.S. auto industry. Within this amount, \$10,000,000 is only for the development of emissions measurement devices.

TECHNOLOGY PROGRAMS (CONTINUED)

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

STATUTORY LANGUAGE:

No language exists.

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
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The conferees agree to provide an additional \$7,000,000 only to continue the development, application, and testing of IFSAR technology by continuing the GEOSAR program, which is an airborne, radar based foliage penetration/terrain mapping system with an emphasis on both defense and civil applications.

The conferees agree to provide an additional \$12,000,000 only for continuation of an ARPA/Defense Sciences Office phosphoric acid fuel cell transit bus research and development program.

The conferees agree to provide \$2,000,000 only to continue development and demonstration of competing thermophotovoltaic electric power generator technologies. The conferees urge NASA and ARPA to work cooperatively to minimize developmental costs and to evaluate the full range of potential applications.

The conferees agree to provide \$6,000,000 only for multi-function self-aligned gate technology and agree to the House language except that the testing should be done on a medium altitude/endurance UAV. The conferees direct that ARPA allot both the fiscal year 1994 and 1995 funds for the MSAG project to the Medium Altitude Endurance UAV office no later than November 1, 1994.

The conferees agree to provide \$1,000,000 only to implement a digital imaging identification system using a closed loop color correction system with a computerized data base.

TECHNOLOGY PROGRAMS (CONTINUED)

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

STATUTORY LANGUAGE:

No language exists.

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ADVANCED CONCEPT TECHNOLOGY DEMONSTRATIONS (ACTD'S)

The conferees agree to provide \$32,100,000 for ACTD's during fiscal year 1995. These ACTD's include those initially recommended by the Senate and the countermeasures ACTD. The conferees agree not to impose a prohibition against the initiation of any other ACTD's during fiscal year 1995, but direct that no new ACTD may begin without prior consultation with, and notification to, the Committees on Appropriations. The conferees direct that any notification contain a full description of the programmatic objectives, schedule, technical risks, and annual and total costs of the proposed ACTD.

ABM TREATY COMPLIANCE ISSUES

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE

No language exists.

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

BILL LANGUAGE

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SEC. 221. COMPLIANCE OF BALLISTIC MISSILE DEFENSE
SYSTEMS AND COMPONENTS WITH ABM
TREATY.

(a) REQUIRED COMPLIANCE REVIEW FOR BRILLIANT
EYES.—The Secretary of Defense shall review the space-
based, midcourse missile tracking system known as Brill-
iant Eyes to determine whether, and under what condi-
tions, the development, testing, and deployment of that
system in conjunction with a theater ballistic missile de-
fense system, with a limited national missile defense sys-
tem, and with both such systems, would be in compliance

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE

No language exists.

SENATE FY95 DOD AUTHORIZATION BILL
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with the ABM Treaty, including the interpretation of that treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

(b) LIMITATION.—Of the funds appropriated pursuant to the authorizations of appropriations in section 201 that are made available for the Brilliant Eyes program, not more than \$50,000,000 may be obligated until the Secretary of Defense submits to the appropriate congressional committees a report on the compliance of the Brilliant Eyes program with the ABM Treaty.

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE

No language exists.

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

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(c) COMPLIANCE REVIEW FOR NAVY UPPER TIER SYSTEM.—(1) If the funds made available for fiscal year 1995 for the theater ballistic missile program known as the “Navy Upper Tier” program pursuant to the authorizations of appropriations in section 201 or otherwise exceed \$17,725,000, the Secretary of Defense shall review the Navy Upper Tier program to determine whether the development, testing, and deployment of that system would be in compliance with the ABM Treaty, including the interpretation of the Treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE

No language exists.

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(2) In the event a compliance review is necessary under paragraph (1), not more than \$17,725,000 may be obligated for the Navy Upper Tier program before the date on which the Secretary submits to the appropriate congressional committees a report on the compliance of the Navy Upper Tier program with the ABM Treaty.

(d) DEFINITIONS.—In this section:

(1) The term "July 13, 1993, ACDA letter" means the letter dated July 13, 1993, from the Acting Director of the Arms Control and Disarmament Agency to the chairman of the Committee on Foreign Relations of the Senate relating to the correct interpretation of the ABM Treaty and accompanied by an enclosure setting forth such interpretation.

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE

No language exists.

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(2) The term "ABM Treaty" means the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missiles, signed in Moscow on May 26, 1972.

(3) The term "appropriate congressional committees" means—

(A) the Committee on Armed Services, the Committee on Foreign Affairs, and the Committee on Appropriations of the House of Representatives; and

(B) the Committee on Armed Services, the Committee on Foreign Relations, and the Committee on Appropriations of the Senate.

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

REPORT LANGUAGE

No language exists.

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Compliance of THAAD Flight Testing During Fiscal Year 1995

The committee applauds the Administration's efforts to seek among the successor states to the former Soviet Union an agreed clarification of permissible limits to the capabilities of theater missile defense (TMD) systems. The committee notes that, at those negotiations, all parties appear prepared in principle to accept a definition of permissible limits that would unambiguously define the U.S. theater high altitude area defense (THAAD) system as a TMD system. The committee also notes testimony that, absent such relief, the flight testing of the THAAD interceptor missile, now scheduled to begin in November 1994, could raise ABM Treaty compliance issues. The committee is concerned that failure to reach a successful agreement at the ongoing negotiations prior to November 1994 could lead the Administration to delay the initial flight testing of the THAAD system, the timely development and deployment of which the Congress has repeatedly supported. Based on U.S. computer simulations, the Administration has determined that the THAAD system could possess a "significant" intercept probability against some strategic reentry vehicles, but only after the full UOES system is in place, including battle management software to receive cueing information from external sensor sources.

The committee is aware of the following facts regarding the planned THAAD test program:

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

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H.R. 4301; H.REPT. 103-499 (5/10/94)

REPORT LANGUAGE

No language exists.

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REPORT LANGUAGE

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- (1) The first two THAAD interceptor flight tests will not involve a target reentry vehicle (RV).
 - (2) For the first six flight tests, the THAAD interceptor will be controlled only by an existing radar at White Sands.
 - (3) For the next four flights, encompassing the full fiscal year 1995 test plan, the THAAD interceptor will be controlled by a demonstration/validation (dem/val) radar system; a prototype (UOES) radar will only be incorporated into the THAAD system thereafter.
 - (4) U.S. computer simulations of the capability of each of the above THAAD system configurations show no capability to intercept strategic RVs.
 - (5) The maximum velocity of the THAAD interceptor missile is less than that of the deployed Russian SA-12 system, which the Administration appears to have accepted as a TMD system. Finally, even if the fully-developed, deployed THAAD system achieves all planned performance specifications, the U.S. computer simulations indicate that the defended-area footprint against a strategic RV for the THAAD system will not include the THAAD battery itself; that is, the fully-developed THAAD system will have no self-defense capability against any strategic RV.
- The committee understands that a specific review of the compliance of the THAAD dem/val program will be undertaken later this year. The committee strongly reiterates its views as expressed in section 234(a) of the National Defense Authorization Act for Fiscal Year 1994. The committee urges the Administration to adopt rea-

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
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No language exists.

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sonable standards for the THAAD dem/val compliance review process, to include comparability of the standards the United States intends to apply to assessments of the compliance of both US and Russian missile defense systems. For example, the committee will find it difficult to accept a position that the initial flight test of an interceptor missile, which does not involve any physical target vehicle, can be found to be a "noncompliant" event. The committee would also question the operational military significance of a "defensive system" which is incapable of defending itself from attack.

If the THAAD dem/val compliance review does not determine that the planned dem/val program is fully compliant as proposed, and if the ongoing negotiations are not completed prior to November 1, 1994, the committee directs the Secretary of Defense to provide to the congressional defense committees not later than November 15, 1994, a report on the effects of additional delay on the planned THAAD test program. The report shall set forth for each quarter of fiscal year 1995 his assessment of the changes to the planned flight test schedule necessitated by the delay in completing the negotiations, together with his estimates of the delay in fielding both the UOES capability and the initial operational capability of the THAAD system, and the added cost to the THAAD program of such delay.

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
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No language exists.

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Compliance Reviews of Ballistic Missile Defense Systems

Last year, the committee required the Administration to provide preliminary reviews of the compliance with the ABM Treaty of all near-term, well-defined theater missile defense (TMD) systems, in addition to the proposed Brilliant Eyes (BE) space-based sensor system. The committee has carefully reviewed the compliance reports and commends the Administration for the timeliness and usefulness of all but one of these reports. The committee finds the compliance report on the BE sensor system unacceptable, as it fails to deal with the set of questions posed in section 234 of the National Defense Authorization Act for Fiscal Year 1994. The report submitted by the Administration on the BE sensor system failed to address the question of whether BE, as planned, would be compliant with, or could be made to be compliant with, either an ABM Treaty-compliant national missile defense (NMD) system, or an ABM Treaty-compliant TMD system, and whether its status as a legally-deployed component of an ABM Treaty-compliant TMD system would be jeopardized if the United States subsequently undertook to develop and deploy an NMD system that also used BE tracking data.

There appears to be no compliance issue with the use of space-based optical data, such as is provided today by defense support program satellites, nor have objections been raised to proposed follow-on systems (FEWS and ALARM). In the Missile Defense Act of 1991, the Congress declared the proposed ground-launched surveillance and tracking system (GSTS) compliant. The BE system appears to be analogous to these systems, relying on telescopic viewing of optical phenomena. Thus, it would appear that, if data from Brilliant Eyes satellites were transmitted, processed, and disseminated in similar fashion to data from existing optical systems, a determination of compliance should be straightforward.

ABM TREATY COMPLIANCE ISSUES (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
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No language exists.

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The report submitted by the Administration avoided these (admittedly complex) questions, arguing instead that the first "two or three" developmental BE satellites would be so lacking in capability as to raise no compliance issue, and declining to formulate an opinion regarding a more robust constellation. The committee cannot accept this answer as a basis for continued substantial funding of the BE program. The Administration is already embarked on negotiations with Russia and many of the successor states to the former Soviet Union to clarify the boundaries on compliant TMD systems. The Congress has been urging the Administration since the passage of the Missile Defense Act of 1991 to undertake similar negotiations—if necessary—to clarify the permitted uses of space-based sensors. Thus, the committee has no choice other than to insist that the Administration determine whether a BE satellite constellation would be fully, partially, or not at all compliant with the current interpretation of the ABM Treaty if used in conjunction with a TMD system, an NMD system, and both systems. To encourage prompt reporting, the committee further limits the obligation of funds for BE to not more than \$50.0 million until the required compliance report is submitted.

Finally, the committee notes that, in its compliance review provision in the National Defense Authorization Act for Fiscal Year 1994, it did not require a compliance review for the Navy upper tier program, on the grounds that it was not sufficiently well-defined. However, the Bottom-Up Review included this program in its designation of "core" TMD programs, and efforts may be made to increase Navy upper tier funding beyond the request of \$17.7 million. Thus, the committee recommends a provision that would require a compliance review of the Navy upper tier program if the appropriated amount for this program exceeds the request, and that would limit the obligation of funds to \$17.7 million until the required compliance review has been delivered to the congressional defense committees.

ABM TREATY COMPLIANCE ISSUES (CONTINUED)
DELLUMS (D-CA) FLOOR AMENDMENT
ABM TREATY

HOUSE FY95 DOD AUTHORIZATION BILL
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SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; H.REPT. 103-282 (6/14/94)

SEC. 236. COMPLIANCE WITH THE ABM TREATY.

(a) LIMITATION.—Funds appropriated to the Department of Defense for fiscal year 1995, or otherwise made available to the Department of Defense from any funds appropriated for fiscal year 1995 or for any fiscal year before 1995, may not be obligated or expended—

(1) for any development or testing of anti-bal-
listic missile systems or components except for devel-
opment and testing consistent with the interpreta-
tion of the ABM Treaty set forth in the enclosure
to the July 13, 1993, ACDA letter; or

ABM TREATY COMPLIANCE ISSUES (CONTINUED)
DELLUMS (D-CA) FLOOR AMENDMENT
ABM TREATY

HOUSE FY95 DOD AUTHORIZATION BILL
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(2) for the acquisition of any material or equipment (including long lead materials, components, piece parts, or test equipment, or any modified space launch vehicle) required or to be used for the development or testing of anti-ballistic missile systems or components, except for material or equipment required for development or testing consistent with the interpretation of the ABM Treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

(b) DEFINITIONS.—In this section:

ABM TREATY COMPLIANCE ISSUES (CONTINUED)
DELLUMS (D-CA) FLOOR AMENDMENT
ABM TREATY

HOUSE FY95 DOD AUTHORIZATION BILL
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(1) The term "July 13, 1993, ACDA letter" means the letter dated July 13, 1993, from the Acting Director of the Arms Control and Disarmament Agency to the chairman of the Committee on Foreign Relations of the Senate relating to the correct interpretation of the ABM Treaty and accompanied by an enclosure setting forth such interpretation.

(2) The term "ABM Treaty" means the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missiles, signed in Moscow on May 26, 1972.

FLOOR AMENDMENT
SENATOR WARNER (R-VA)
ABM TREATY

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

BILL LANGUAGE

Sec. 224. SENATE ADVICE AND CONSENT ON AGREEMENTS
THAT MODIFY THE ANTI-BALLISTIC MISSILE
TREATY

(a) Requirement for Advice and Consent of Senate.-- Whenever the President negotiates an international agreement that would substantively modify the ABM Treaty, the United States shall not be bound by such agreement unless the agreement is entered into pursuant to the treaty making power of the President under the Constitution (which includes a requirement for advice and consent of the Senate);

(b) ABM Treaty Defined. -- In this section, the term "ABM Treaty" means the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, signed in Moscow on May 26, 1972, with related protocol, signed in Moscow on July 3, 1974.

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S.REPT. 103-282 (6/14/94)

ABM TREATY COMPLIANCE

FY95 DOD AUTHORIZATION CONFERENCE REPORT
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STATUTORY LANGUAGE

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SEC. 231. COMPLIANCE OF BALLISTIC MISSILE DEFENSE SYSTEMS AND COMPONENTS WITH ABM TREATY.

(a) GENERAL LIMITATION.—Funds appropriated to the Department of Defense for fiscal year 1995, or otherwise made available to the Department of Defense from any funds appropriated for fiscal year 1995 or for any fiscal year before 1995, may not be obligated or expended—

(1) for any development or testing of anti-ballistic missile systems or components except for development and testing consistent with the interpretation of the ABM Treaty set forth in the enclosure to the July 13, 1993, ACDA letter; or

(2) for the acquisition of any material or equipment (including long lead materials, components, piece parts, or test equipment, or any modified space launch vehicle) required or to be used for the development or testing of anti-ballistic missile systems or components, except for material or equipment required for development or testing consistent with the interpretation of the ABM Treaty set forth in the enclosure to the July 13, 1993, ACDA letter.

(b) LIMITATION RELATING TO BRILLIANT EYES.—Of the funds appropriated pursuant to the authorizations of appropriations in section 201 that are made available for the space-based, midcourse missile tracking system known as the Brilliant Eyes program, not more than \$80,000,000 may be obligated until the Secretary of Defense submits to the appropriate congressional committees a report on the compliance of that program with the ABM Treaty, as determined under the compliance review conducted pursuant to subsection (c).

ISSUES (CONTINUED)

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Ballistic missile defense programs (secs. 231, 233, and 235)

The Senate bill contained four provisions (secs. 221-224) that would deal with ballistic missile defense issues.

The House amendment also contained four provisions (secs. 221 and 231-233) that would cover similar or related issues.

The Senate report (S. Rept. 103-282) and House report (H. Rept. 103-449) also provided extensive guidance on ballistic missile defense (BMD) issues to the Ballistic Missile Defense Organization (BMDO).

The conferees explain in the following subsections their: broad policy guidance for ballistic missile defense research, development, testing, and deployment; concerns regarding the BMDO funding proposal for fiscal year 1995 and underlying long-term plans; resolution of those concerns; decisions and recommendations on programmatic and funding issues; and additional guidance on specific matters. Specific legislative provisions contained in this conference report will be discussed in the context of this guidance.

ABM TREATY COMPLIANCE

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(c) COMPLIANCE REVIEW FOR BRILLIANT EYES.—*The Secretary of Defense shall review the Brilliant Eyes program to determine whether, and under what conditions, the development, testing, and deployment of the Brilliant Eyes missile tracking system in conjunction with a theater ballistic missile defense system, with a limited national missile defense system, and with both such systems, would be in compliance with the ABM Treaty, including the interpretation of that treaty set forth in the enclosure to the July 13, 1993, ACDA letter.*

(d) COMPLIANCE REVIEW FOR NAVY UPPER TIER SYSTEM.—(1) *The Secretary of Defense shall review the theater ballistic missile program known as the Navy Upper Tier program to determine whether the development, testing, and deployment of the system being developed under that program would be in compliance with the ABM Treaty, including the interpretation of the Treaty set forth in the enclosure to the July 13, 1993, ACDA letter.*

(2) *Of the funds made available to the Department of Defense for fiscal year 1995, not more than \$40,000,000 may be obligated for the Navy Upper Tier program before the date on which the Secretary submits to the appropriate congressional committees a report on the compliance of that program with the ABM Treaty, as determined under the compliance review under paragraph (1).*

(e) DEFINITIONS.—In this section:

(1) The term “July 13, 1993, ACDA letter” means the letter dated July 13, 1993, from the Acting Director of the Arms Control and Disarmament Agency to the chairman of the Committee on Foreign Relations of the Senate relating to the correct interpretation of the ABM Treaty and accompanied by an enclosure setting forth such interpretation.

(2) The term “ABM Treaty” means the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missiles, signed in Moscow on May 26, 1972.

(3) The term “appropriate congressional committees” means—

ISSUES (CONTINUED)

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Concerns about Navy lower tier warhead lethality affect other major TMD programs. The conferees note that a significant fraction of Navy lower tier funding supports Navy upper tier development. The current Navy upper tier program does involve hit-to-kill technology, but the LEAP vehicle is incompatible with the lower tier mission. The conferees recognize that the combination of Navy lower tier and Navy upper tier may be the lowest-cost combination for sea-based TBM systems; however, they recognize it may also be the least effective. If the Navy lower tier program were to be delayed by the search for greater lethality, or canceled in favor of other options, the program cost of the Navy upper tier would increase. The Navy upper tier program is also affected by the Administration's recent proposals in the Standing Consultative Commission to clarify the ABM Treaty. Under the proposed three kilometer per second interceptor velocity limit, the performance of the Standard missile equipped with a LEAP kill vehicle may be reduced to a point at which its cost and effectiveness relative to a maritized version of THAAD would require re-examination. Both factors suggest the need for prompt and thorough re-evaluation of the cost and effectiveness of the Navy upper tier program.

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(A) *the Committee on Armed Services, the Committee on Foreign Affairs, and the Committee on Appropriations of the House of Representatives; and*
(B) *the Committee on Armed Services, the Committee on Foreign Relations, and the Committee on Appropriations of the Senate.*

SEC. 232. MODIFICATIONS TO ANTI-BALLISTIC MISSILE TREATY TO BE ENTERED INTO ONLY THROUGH TREATY MAKING POWER.—The
(a) REQUIREMENT FOR USE OF TREATY MAKING POWER.—The United States shall not be bound by any international agreement entered into by the President that would substantively modify the ABM Treaty unless the agreement is entered pursuant to the treaty making power of the President under the Constitution.

(b) ABM TREATY DEFINED.—In this section, the term “ABM Treaty” means the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems, signed in Moscow on May 26, 1972, with related protocol, signed in Moscow on July 3, 1974.

ISSUES (CONTINUED)

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COMPLIANCE REVIEWS

The conferees agree to a provision that would require compliance reviews for both the Brilliant Eyes program and the Navy upper tier program. Guidance for the Brilliant Eyes review is contained in the Senate report (S. Rept. 103-282); for the Navy upper tier program, the conferees require a review of the compliance of the LEAP configuration both as currently planned, and if the kick-stage motor were restricted to limit LEAP velocity to three kilometers per second.

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FLIGHT TESTING OF THAAD INTERCEPTOR MISSILES DURING FISCAL YEAR 1995

The Senate report (S. Rept. 103-282) contained a section entitled “Compliance of THAAD Flight Testing During Fiscal Year 1995.” The conferees endorse the views expressed in that section.

ABM TREATY COMPLIANCE

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Senate advice and consent on agreements that modify the Anti-Ballistic Missile Treaty (sec. 232)

The Senate bill included a provision (sec. 225) that would require the President to submit any negotiated changes that would substantively modify the Anti-Ballistic Missile Treaty to the Senate. The United States would not be bound by any international agreement negotiated by the President that substantively modified the Anti-Ballistic Missile Treaty unless the agreement was presented to the Senate for its advice and consent to ratification of the agreement, pursuant to the Constitution.

The House amendment contained no similar provision.

The House recedes. The conferees note that there is a wide range of views in the Senate on what might constitute a "substantive modification" to the ABM Treaty which would trigger a requirement to submit the agreement to the Senate for further advice and consent. Since 1972, the ABM Treaty has been clarified or modified on a number of occasions without the Executive Branch submitting the changes to the Senate for its advice and consent. These clarifications or changes, negotiated in the Standing Consultative Commission (SCC) and not submitted to the Senate for its advice and consent, have taken the form of agreement statements.

The conferees believe that the Executive Branch should consult with the Senate on any new agreements reached in the SCC or elsewhere concerning the ABM Treaty to carefully determine whether these new agreements meet the definition of a "substantive modification" to the Treaty, and are required to be submitted to the Senate for advice and consent under Article II of the U.S. Constitution.

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The theater high altitude area defense (THAAD) system has experienced a schedule slip in its flight tests. The Committee believes that additional schedule slips are possible before resolution of negotiations with Russia and the other successor states to the Anti-Ballistic Missile treaty over whether the THAAD system and testing of the system is compliant with the treaty.

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[ABM] Treaty compliance questions which must be resolved later in its development cycle. BE also raises Anti-Ballistic Missile

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ISSUES (CONTINUED)

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The conferees direct that prior to any agreement being signed or initialed in the Standing Consultative Commission regarding modifications to the 1972 Anti-Ballistic Missile Treaty that impose restrictions on the development or testing of Department of Defense theater missile defense systems, the Secretary of Defense shall notify and provide a report on such restrictions to the Committees on Armed Forces and the Committees on Appropriations of the Senate and House of Representatives.



ALLIED COOPERATION

ALLIED COOPERATION

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SEC. 1014. DEFENSE COOPERATION BETWEEN THE UNITED

STATES AND ISRAEL.

(a) FINDINGS.—Congress makes the following findings:

- (1) The President has made a commitment to maintaining the qualitative superiority of the Israeli Defense Force over any potential combination of potential adversaries.
- (2) Despite the peace process in which Israel is engaged, Israel continues to face difficult threats to its national security.

ALLIED COOPERATION (CONTINUED)

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(3) The threats are compounded by the proliferation of weapons of mass destruction and ballistic missiles.

(4) Congress recognizes the many benefits to the United States resulting from the strategic relationship that exists between the United States and Israel.

(5) Congress is supportive of the objective of the President to enhance United States-Israel military and technical cooperation, particularly in the areas of missile defense and counter-proliferation.

(6) Congress is supportive of the establishment of the United States-Israel Science and Technology Commission in 1993.

ALLIED COOPERATION (CONTINUED)

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(7) Maintaining the qualitative superiority of the Israeli Defense Force and strengthening the defense ties and science and technology cooperation between the United States and Israel will help ensure that Israel has the military strength and political support necessary to take risks for peace while providing Arab states with an incentive to pursue negotiations instead of war.

(8) Israel continues to cooperate with the United States on numerous theater missile defense programs, including the Arrow Tactical Anti-Missile program and the boost phase intercept technology program.

ALLIED COOPERATION (CONTINUED)

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(9) It is in the national interests of the United States and Israel to strengthen existing mechanisms for cooperation and to eliminate unnecessary barriers to further collaboration between the United States and Israel.

(b) SENSE OF CONGRESS.—It is the sense of Congress that Congress—

(1) encourages the President to ensure that any conventional defense system or technology offered for release to any NATO or other major non-NATO ally should concurrently be available for purchase by



ABM TREATY COMPLIANCE ISSUES

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Israel unless such action would contravene United States national interests; and

(2) urges the President to make available to Israel, within existing technology transfer laws, regulations, and policies, advanced United States technology necessary for continued progress in cooperative United States-Israel research and development of theater missile defenses.

ALLIED COOPERATION (CONTINUED)

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Defense cooperation between the United States and Israel

The committee recommends a provision that would express the support of Congress for continued cooperation between the United States and Israel in military and technical areas, particularly theater missile defense systems. The provision would urge the removal of unnecessary barriers to further collaboration between the two countries in order to maintain Israel's qualitative edge over potential adversaries in conventional weapons and theater missile defenses. The committee also recognizes that U.S. national security interests, such as the nonproliferation of weapons of mass destruction, must limit cooperation in certain technical areas.

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1321. DEFENSE COOPERATION BETWEEN THE UNITED STATES AND ISRAEL.

(a) FINDINGS.—Congress makes the following findings:

(1) The President has reiterated the long-standing United States commitment to maintaining the qualitative superiority of the Israeli Defense Force over any combination of adversaries.

(2) Congress continues to recognize the many benefits to the United States from its strategic relationship with Israel, including enhancing regional stability and technical cooperation.

(3) Despite the momentous peace process in which Israel and its neighbors are productively engaged, Israel continues to face difficult threats to its national security that are compounded by the proliferation of weapons of mass destruction and ballistic missiles.

(4) Congress is supportive of the objective of the President to enhance United States-Israel military and technical cooperation, particularly in the areas of missile defense and counterproliferation.

(b) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) the President should ensure that any conventional defense system or technology offered for release to any NATO or other major non-NATO ally should concurrently be available for purchase by Israel unless such action would contravene United States national interests; and

(2) the President should make available to Israel, within existing technology transfer laws, regulations, and policies, advanced United States technology necessary for continued progress in cooperative United States-Israel research and development of theater missile defenses.

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Defense cooperation between the United States and Israel (sec. 1321)

The Senate bill contained a provision (sec. 1014) that would express the support of Congress for continued cooperation between the United States and Israel in military and technical areas.

The House amendment contained no similar provision.

The House recedes with an amendment. The conferees agree that the national interests of the United States and Israel are best served by strengthening existing mechanisms for cooperation and working toward eliminating unnecessary barriers to collaboration between the two countries.

ALLIED COOPERATION (CONTINUED)

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BILL LANGUAGE:

No language exists.

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No language exists.

ALLIED COOPERATION (CONTINUED)

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No language exists.

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No language exists.

MISSILE DEFENSE ACT REVISIONS

MISSILE DEFENSE ACT REVISIONS

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SEC. 222. REVISIONS TO THE MISSILE DEFENSE ACT OF

1991.

The Missile Defense Act of 1991 (part C of title II of Public Law 102-190; 10 U.S.C. 2431 note) is amended—

- (1) by striking out sections 235, 236, and 237;
- (2) in section 238, by inserting before the period at the end of the second sentence the following:
“, and shall submit to the Congress additional interim reports on the progress of such negotiations at six-month intervals thereafter until such time as the

MISSILE DEFENSE ACT REVISIONS (CONTINUED)

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President notifies the congressional defense committees that such negotiations have been concluded or terminated"; and

(3) by redesignating section 238, 239, and 240 as sections 234, 235, and 236, respectively.

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No language exists.

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Revisions to the Missile Defense Act of 1991

The committee recommends a provision that would make several non-substantive changes to the Missile Defense Act of 1991. The provision would delete three provisions pertaining to fiscal year 1992 funding and to the naming and description of several BMDO line-items. The Congress funds BMDO programs annually, and the titles and programmatic content of BMDO line-items have also been changed annually. The provision would also extend the current requirement in section 238 of the Missile Defense Act of 1991 for interim reports from the President on the progress of negotiations with Russia and the successor states to the former Soviet Union on changes or clarifications to the ABM Treaty.

MISSILE DEFENSE ACT REVISIONS (CONTINUED)

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SEC. 233. REVISIONS TO THE MISSILE DEFENSE ACT OF 1991.
The Missile Defense Act of 1991 (part C of title II of Public Law 102-190; 10 U.S.C. 2431 note) is amended—
(1) by striking out sections 235, 236, and 237; and
(2) in section 238, by inserting before the period at the end of the second sentence the following: “, and shall submit to the Congress additional interim reports on the progress of such negotiations at six-month intervals thereafter until such time as the President notifies the Congress that such negotiations have been concluded or terminated”.

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CHANGES TO THE MISSILE DEFENSE ACT OF 1991
The conferees agree to a provision that would further streamline the Missile Defense Act of 1991, as amended.

MISSILE DEFENSE ACT REVISIONS (CONTINUED)

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No language exists.

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MISSILE DEFENSE ACT REVISIONS (CONTINUED)

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No language exists.

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No language exists.



SINGLE STAGE TO ORBIT ROCKET (SSTO)

SINGLE-STAGE TO ORBIT ROCKET (SSTO)

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SEC. 213. TRANSFER OF FUNDS FOR SINGLE-STAGE TO

ORBIT ROCKET.

The Secretary of Defense shall, to the extent provided in appropriations Acts, transfer to the National Aeronautics and Space Administration the unobligated balance of funds appropriated to the Department of Defense for the Advanced Research Projects Agency for single-stage to orbit rocket research and development.

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Space launch

The National Defense Authorization Act for Fiscal Year 1994 required the Secretary of Defense to provide to Congress a space launch modernization road map. The Secretary has provided a report to Congress on options, but plans to wait until fiscal year 1996 to submit a detailed modernization plan since the report was completed after submission of the fiscal year 1995 budget request. The committee believes that the report, as submitted, provides a sufficient basis for initiating action in fiscal year 1995.

The Secretary's report recommends that a division of labor should be established between DOD and the National Aeronautics and Space Administration (NASA). DOD should be assigned lead responsibility for expendable launch systems while NASA should take the lead in developing technology for reusable launch vehicles. Given the dismal history of joint DOD-NASA space programs, the committee firmly believes that funding and management responsibilities must be clearly demarcated. Accordingly, the committee recommends a provision that would transfer to NASA funds appropriated for fiscal year 1994 for single-stage rocket technology that remain unobligated or unexpended.

DOD believes that, given current budget limitations, the only realistic near-term modernization option is to improve and evolve existing launch systems. DOD believes that it would take at least \$5.0 billion to develop a new expendable launch system. The committee agrees that alternative approaches could result in lower costs, but understands that they would be riskier and would re-

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quire unconventional acquisition strategies. The committee therefore endorses the product-improvement option, with the stipulation that novel alternatives continue to be explored in the technology base.

The Secretary's report also makes clear that DOD must reduce the variety of launch vehicles it operates in order to eliminate excess industrial capacity, achieve economies of scale, and improve reliability. The logical path to this goal is through the upcoming competition for additional medium launch vehicles. Selecting a single launch vehicle for both medium- and heavy-lift requirements also will make improvements more affordable. The committee supports this strategy, but only on the condition that the competition not be restricted to current producers of medium- and heavy-lift vehicles and that innovative financing schemes are explored as part of the acquisition strategy.

With regard to heavy lift, DOD now plans to downsize the two remaining satellites that must be launched on the Titan IV within the next 10 years. By transferring these satellites to medium launch vehicles, the Air Force stands to save significant resources. After that, the National Reconnaissance Office (NRO) will be the sole user of the Titan IV. Currently, the Air Force manages and funds most of the costs of the Titan IV. The NRO asserts that it cannot reduce the size of the satellites that are launched by the Titan IV. If the Titan IV cannot be eliminated or replaced in a timely manner, the committee believes that the NRO, as the sole user, should assume responsibility for funding and managing the Titan IV. This action also would be consistent with the NRO's "cradle-to-grave" satellite management philosophy. The committee directs the Assistant Secretary of the Air Force for Space to prepare a transition plan for the Titan IV for submission to the congressional defense committees with the submission of the Fiscal Years 1996-2001 Future Years Defense Program.

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The budget request included \$40.9 million to begin acquisition of additional Titan IV heavy-lift launch vehicles in fiscal year 1995. The DOD Inspector General and the Air Force now agree that this action is at least several years premature. The committee, therefore, recommends a reduction to the Titan IV procurement request of \$40.9 million.

The Secretary's report notes that technology base resources for expendable rocket systems are extremely limited and should be increased. The committee therefore recommends an additional \$10.0 million in PE 603302F for technology development and demonstration for fiscal year 1995, and expects DOD to increase that amount in the fiscal year 1996 budget request. The committee believes that this technology base program should not be managed by the same organization that will be charged with improving existing systems and components. The committee also believes that this program should be directed toward novel systems approaches and designs and directs that this initiative be applied to concepts for liquid and solid rocket systems that do not require complex, high-performance turbomachinery. The committee makes an exception for evaluation of Russian engine technology.

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SEC. 211. SPACE LAUNCH MODERNIZATION.

(a) POLICY.—(1) It is in the Nation's long-term national security and economic interests to regain preeminence in the area of space launch technology and operations.

(2) Access to space at affordable costs is fundamental to maintaining required command, control, communications, intelligence, navigation, weather, and early warning support to United States and coalition forces.

(3) Encouragement of privately financed, cost effective expendable and reusable launch vehicles is in the economic interest of the Department of Defense and the United States Government.

(b) FINDING.—Congress finds that the current Department of Defense space launch infrastructure has several deficiencies, including high cost, excessive management overhead, inadequate operability and responsiveness to satellite launch requirements, lack of standardization, very large launch personnel requirements to support launch operations, over capacity, and technology obsolescence.

(c) REQUIRED ACTIONS.—The Secretary of Defense shall take the following actions in pursuance of the space launch modernization policy set forth in subsection (a) and to correct the deficiencies described in subsection (b):

(1) Develop an integrated space launch vehicle strategy that, if implemented, would replace or consolidate the current fleet of medium and heavy launch vehicles. Where prudent and cost effective, the strategy should include a plan for the development of new or upgraded expendable launch vehicles.

(2) Implement improved management practices including streamlined acquisition approaches, small government program staff, and minimal program overhead.

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Space launch programs (sec. 211)

The Senate bill contained a provision (sec. 213) that would transfer prior-year funds appropriated for single-stage-to-orbit (SSTO) rocket technology from the Department of Defense to the National Aeronautics and Space Administration (NASA), since the Secretary of Defense submitted a report recommending that NASA be assigned lead responsibility for developing reusable rocket technology. The Senate bill would authorize no funds for reusable rocket technology for fiscal year 1995 and would authorize a total of \$20.2 million for expendable rocket technology development.

The House amendment contained a provision (sec. 211) that would (1) establish DOD space launch policy; (2) require the Secretary of Defense to replace current launch systems, conduct flight tests by 1998 of reusable launch vehicles, and conduct flight tests of expendable launch vehicles; and (3) authorize \$200.0 million, equally divided, for reusable and expendable rocket technology demonstrations.

The Senate recedes with an amendment.

The conferees agree to (1) authorize no funds for the national launch system program; (2) authorize \$10.0 million in PE 62601F to continue concept development of simple, inexpensive expendable rocket systems that do not require complex turbo machinery; (3) transfer prior-year SSTO funds from the Advanced Research Projects Agency to the Air Force PE 63401F and note that these funds would not be for further development of the "Delta Clipper" vehicle built by BMDO; (4) authorize \$30.0 million for the Air Force in PE 63401F to initiate reusable rocket technology development efforts, with the stipulation that DOD obligations shall not exceed amounts made available by NASA for such efforts for fiscal year 1995; (5) authorize \$50.0 million for the Air Force in PE 35119F to initiate a competitive program to replace existing launch capabilities; and (6) limit the obligation of funds for both reusable and expendable rocket programs until coordinated DOD/NASA program plans are submitted to Congress.

SINGLE STAGE TO ORBIT ROCKET (SSTO) (CONTINUED)

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(3) Encourage and evaluate innovative acquisition, technical, and financing (including best commercial practices) solutions for providing affordable, operable, reliable, and responsive access to space.

(4) Centralize oversight of launch requirements to ensure integrated evaluation of satellite requirements and launch capabilities.

(5) Encourage and provide incentives for the use of commercial practices in the acquisition, operation, and support of Department of Defense space operations.

(6) Establish effective coordination among military, civilian, and commercial launch developers and users.

(d) ALLOCATION OF FUNDS.—Of the amount authorized to be appropriated in section 201(3), \$90,000,000 shall be available for research, development, test, and evaluation of non-man-rated space launch systems and technologies. Of that amount—

(1) \$30,000,000 shall be available for a competitive reusable rocket technology program; and

(2) \$60,000,000 shall be available for expendable launch vehicle technology development and acquisition, as appropriate.

(e) TRANSFER OF FUNDS.—The Secretary of Defense shall, to the extent provided in appropriations Acts, transfer to the Department of the Air Force the unobligated balance of funds appropriated for fiscal year 1994 to the Department of Defense for the Advanced Research Projects Agency for single-stage to orbit rocket research and development.

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The National Defense Authorization Act for Fiscal Year 1994 required the Administration to conduct another study of space launch capabilities, because Congress was unsatisfied by the space launch Bottom-Up Review, which concluded that acknowledged problems with current systems are not serious enough to warrant displacing other defense programs. The new study has resulted in the development of new national policy in this area. This policy assigns lead responsibility for reusable and expendable space launch vehicles to NASA and DOD, respectively. NASA has been instructed to determine by 1996 whether a reusable vehicle flight demonstration program is feasible and affordable, and by the end of the decade, whether a development program should be pursued. The Deputy Secretary of Defense is examining again whether a new launch initiative is warranted and affordable within the Department of Defense.

Accordingly, the conferees direct that the Department of Defense will not lead any government-financed reusable space vehicle flight demonstration or acquisition programs, at least until the Administration changes its policy. However, if the Department of Defense decides to conduct a competition to replace current DOD launch capabilities, and if DOD concludes that an industry proposal to build a reusable system to meet requirements is realistic, affordable and cost-effective, the conferees will consider a well-justified acquisition plan.

The conferees doubt that DOD can afford to finance any expensive space launch acquisition program. The conferees are aware of claims that the private sector is willing to finance all or most of a new capability. The conferees encourage DOD to explore such claims. However, the conferees expect that such proposals would require commitments from the government, which may entail substantial risk, and therefore require careful consideration by Congress and the Administration.

SINGLE STAGE TO ORBIT ROCKET (SSTO) (CONTINUED)

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(f) PROGRAM PLAN.—The Secretary of Defense and the Administrator of the National Aeronautics and Space Administration shall develop a plan to coordinate the programs of the Department of Defense and the National Aeronautics and Space Administration for expendable and reusable rocket technology demonstrators and technology development. The Secretary of Defense shall submit to Congress the plan developed under this subsection.

(g) LIMITATIONS.—(1) Funds authorized for appropriation in subsection (d)(1) may be obligated only—

(A) to the extent that the fiscal year 1995 current operating plan of the National Aeronautics and Space Administration allocates at least an equal amount for its Reusable Space Launch program; and

(B) as specified in the program plan developed and submitted to Congress pursuant to subsection (f).

(2) Not more than \$30,000,000 of the funds authorized in subsection (d)(2) may be obligated until 30 days after the Secretary of Defense submits to Congress program plans, including objectives, milestones, future years defense program funding, and government-industry cost sharing considerations, as applicable.

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Reusable Launch Vehicles

Conceptually, a Single Stage to Orbit (SSTO) launch vehicle would be reusable, cheap to operate, and be ready for a launch in only a matter of days after returning from space. Such a vehicle is generally referred to as "leap frog" technology because the next evolutionary step in space launch vehicle development would logically be a new—and more traditional—expendable vehicle, not a reusable vehicle. The Strategic Defense Initiative Organization (SDIO), now called Ballistic Missile Defense Organization (BMDO), built and tested a sub-scale, suborbital model of an SSTO vehicle. The flight tests will be completed during fiscal year 1994 and the total costs of the program will be approximately \$70 million. The fiscal year 1994 budget requested no funds for SSTO or reusable technology. However, the Congress appropriated \$40 million to continue development of an SSTO launch vehicle.

Virtually every launch vehicle study that has looked at the SSTO proposal concludes that it is unaffordable and technologically unavailable in the near future. Cost estimates for the full development program range from \$10 billion to \$40 billion to produce the first vehicle. The White House is expected to announce shortly that NASA, not DOD, will be responsible for developing the SSTO launch vehicle. It will not be DOD's responsibility to build an SSTO vehicle, nor would it be affordable for DOD to do so. However,

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SINGLE STAGE TO ORBIT (SSTO) (CONTINUED)

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there is value in DOD funding a few propulsion and materials technology development programs to determine the extent to which reusable launch vehicle components could be used to lower the cost of DOD's expendable launch vehicle fleet.

The House-passed authorization bill included \$100 million above the budget in fiscal year 1995 for SSTO development and reusable launch vehicle technology. The Committee has provided \$50 million above the budget in fiscal year 1995 for DOD to fund selected reusable launch vehicle technologies. DOD will also be expected to release the \$40 million already provided in fiscal year 1994. However, if responsibility for SSTO development is assigned to NASA, no funds should be provided to DOD for this effort.

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SINGLE STAGE TO ORBIT ROCKET (CONTINUED)

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(b) Of the funds provided in the Department of Defense Appropriations Act, 1994 (Public Law 103-139), the Secretary of Defense shall transfer a total of \$60,000,000 to the National Aeronautics and Space Administration (NASA): Provided, That of that amount, \$25,000,000 shall be transferred from Procurement, Defense-Wide, 1994/1996, and shall only be used for LANDSAT 7: Provided further, That of that amount, \$35,000,000 shall be transferred from Research, Development, Test and Evaluation, Defense-Wide, 1994/1995, and shall only be used for Single-Stage-to-Orbit research and development at Phillips Laboratory, Albuquerque, New Mexico and, pursuant to the President's call for a supporting role for DOD in this technology, the funds shall be used in activities to support NASA-led construction of an Advanced Technology Demonstrator X-vehicle and to finish the original flight test program of the DC-X1 test vehicle.

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Amendment No. 167: Restores and amends House language prohibiting the acquisition of more than 47 Titan IV heavy-lift expendable launch vehicles; transferring a total of \$60,000,000 to NASA, including \$25,000,000 to be used only for LANDSAT 7 and \$35,000,000 to be used only at Phillips Laboratory, Albuquerque, New Mexico for an Advanced Technology Demonstrator X-vehicle and to finish the original flight test program of the DC-X1 test vehicle; providing a total of \$40,000,000 to begin development of a new family of medium-lift and heavy-lift launch vehicles; and inserts and amends Senate language that places restrictions on military and civilian personnel who separate under an incentive program.



FLIGHT TESTS

FLIGHT TESTS

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No bill language exists.

SEC. 235. LIMITATION ON FLIGHT TESTS OF CERTAIN MIS-

SILES.

(a) *LIMITATION.*—The Secretary of Defense may not conduct a flight test program of theater missile defense interceptors and sensors if an anticipated result of the launch of a missile under that test program would be release of debris in a land area of the United States outside a designated Department of Defense test range.

(b) *DEFINITION OF DEBRIS.*—For purposes of subsection (a), the term “debris” does not include particulate matter that is regulated for considerations of air quality.

FLIGHT TESTS (CONTINUED)

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(c) CERTAIN TESTING UNAFFECTED.—Nothing in this section shall be construed as prohibiting or limiting testing of cruise missiles, unmanned aerial vehicles (UAVs), or precision-guided munitions.

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SECTION 235—LIMITATION ON FLIGHT TESTS OF CERTAIN MISSILES

This section would prohibit the Secretary of Defense from conducting a flight test program of theater missile defense interceptors and sensors if an anticipated result of the launch of a missile under that test program would be the release of debris in a land area of the United States outside a designated Department of Defense test range.

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FLIGHT TESTS

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SEC. 234. LIMITATION ON FLIGHT TESTS OF CERTAIN MISSILES.

(a) LIMITATION.—The Secretary of Defense may not conduct the launch of a target ballistic missile as part of the theater missile defense extended range test program if an anticipated result of the launch of that target missile under that test program would be release of debris in a land area of the United States outside a designated Department of Defense test range or an extension thereof in force as of July 1, 1994.

(b) DEFINITION OF DEBRIS.—For purposes of subsection (a), the term “debris” does not include particulate matter that is regulated for considerations of air quality.

(c) CERTAIN TESTING UNAFFECTED.—Nothing in this section shall be construed as prohibiting or limiting testing of cruise missiles, unmanned aerial vehicles (UAVs), or precision-guided munitions.

(d) EXPIRATION OF LIMITATION.—The limitation in subsection (a) shall expire on the later of—

- (1) June 30, 1995; or
- (2) the end of the 30-day period beginning on the date of the publication by the Secretary of Defense of the Final Environmental Impact Statement on the Theater Missile Defense Extended Test Range.

(CONTINUED)

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Limitation on flight tests of certain target missiles (sec. 234)

The House amendment contained a provision (sec. 235) that would limit certain missiles tests.

The Senate bill contained no similar provision.

The Senate recedes with an amendment.

Defense women's health research program (sec. 241)

The budget request contained no funds for the defense women's health research program.

The Senate bill would provide \$40.0 million in PE 63002D for the defense women's health research program and contained a provision (sec. 242) that would continue the program.

The House amendment would provide \$40.0 million in PE 63002A for the defense women's health research program and contained a similar provision (sec. 241).

The Senate recedes with a clarifying amendment. The conferees agree to provide \$40.0 million in PE 63002D.

Submission of Semiconductor Technology Council annual report (sec. 251)

The Senate bill included a provision (sec. 243) that would require the Semiconductor Technology Council to submit its annual report to Congress on March 31 of each year.

The House amendment contained no similar provision.

The House recedes.

FLIGHT TESTS

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The Committee recognizes that the Pacific missile range facility [PMRF] air, surface, and subsurface ranges and associated test and exercise infrastructure provide the unique capability to conduct virtually unrestricted test and evaluation in ideal conditions in support of the Defense Department, the armed services, the National Aeronautics and Space Administration, and U.S. friends and allies. Furthermore, the range is specifically equipped with the optical and radar tracking equipment, communications network, test control facilities, rocket launch infrastructure, and range support capability necessary to support tests of theater missile defense systems and concepts. Based on these unique assets and PMRF's demonstrated record of success, the Committee directs that the Pacific missile range facility [PMRF] shall be designated the primary test range for the completion of Navy lower tier and upper tier missile flight tests.

Second, the Committee directs that \$4,000,000 of the test and evaluation support funds shall be made available only to sustain the operations and support BMDO test activities at the Kauai test facility [KTF].

FLIGHT TESTS (CONTINUED)

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PACIFIC MISSILE RANGE FACILITY

The conferees agree with the Senate direction and guidance with respect to the Navy's Pacific Missile Range Facility and its inclusion in the Defense Department's Major Range and Test Facility Base on its role in testing the Navy's ballistic missile defense systems.

MID-INFRARED ADVANCED CHEMICAL LASER
(MIRACL)

MID-INFRARED ADVANCED CHEMICAL LASER (MIRACL)

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SEC. 213. EXTENSION OF PROHIBITION ON TESTING MID-IN-

FRARED ADVANCED CHEMICAL LASER

AGAINST AN OBJECT IN SPACE.

The Secretary of Defense may not carry out a test of the Mid-Infrared Advanced Chemical Laser (MIRACL) transmitter and associated optics against an object in space during fiscal year 1995 unless such testing is specifically authorized by law.

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BILL LANGUAGE:

No bill language exists.

MID-INFRARED ADVANCED CHEMICAL LASER (MIRACL) (CONTINUED)

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SECTION 213—EXTENSION OF PROHIBITION ON TESTING MID-INFRARED
ADVANCED CHEMICAL LASER AGAINST AN OBJECT IN SPACE

This section would prohibit the testing of the Mid-Infrared Advanced Chemical Laser (MIRACL) against an object in space during 1995 unless such testing is specifically authorized by law. For the past several years the Congress has included language in the National Defense Authorization Acts to prohibit the testing of MIRACL against an object in space. The committee believes that the policy implication of such testing should be addressed before actual testing can occur.

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MID-INFRARED ADVANCED CHEMICAL LASER (MIRACL) (CONTINUED)

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SEC. 213. EXTENSION OF PROHIBITION ON TESTING MID-INFRARED
ADVANCED CHEMICAL LASER AGAINST AN OBJECT IN
SPACE.

(a) *PROHIBITION.*—The Secretary of Defense may not carry out
a test of the Mid-Infrared Advanced Chemical Laser (MIRACL)
transmitter and associated optics against an object in space during
fiscal year 1995 unless such testing is specifically authorized by
law.

(b) *CERTAIN TESTING UNAFFECTED.*—Nothing in this section is
intended to restrict the use of the Sealite Beam Director for the pur-
pose of calibrating a satellite sensor, or for the purpose of imaging
an object in space, in conjunction with a laser device other than the
MIRACL device operating at an average power level not to exceed
that used by other laser devices as of January 1, 1994, at other De-
partment of Defense facilities for those purposes.

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Mid-infrared advanced chemical laser (sec. 213)

The House amendment contained a provision (sec. 213) that
would prohibit the Secretary of Defense from carrying out a test of
the mid-infrared advanced chemical laser (MIRACL) transmitter
and associated optics against an object in space during 1994 unless
such testing is specifically authorized in law.

The Senate bill contained no similar provision.

The Senate recedes with an amendment that would allow the
sealite beam director to be utilized with a laser other than the
MIRACL for satellite sensor calibration and imaging of space ob-
jects at a power level not to exceed that which has been utilized
for these purposes as of January 1, 1994 at other Department of
Defense laser facilities (including Kirtland Air Force Base, Maui
Optical Facility, and the Firepond facility of the Lincoln Labora-
tory). The conferees reiterate their opposition to utilization of the
MIRACL for damaging objects in space. This provision would con-
tinue to prevent MIRACL from illuminating any object in space.

MID-INFRARED ADVANCED CHEMICAL LASER (MIRACL) (CONTINUED)

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No language exists.

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No language exists.

MID-INFRARED ADVANCED CHEMICAL LASER (MIRACL) (CONTINUED)

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No language exists.

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No language exists.



NATIONAL TEST FACILITY

NATIONAL TEST FACILITY

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National test facility

The committee is concerned about the full utilization of the supercomputing capabilities of the National Test Facility (NTF) located at Falcon Air Force Base, Colorado. The committee directs the Secretary of Defense to submit a report to the congressional defense committees by January 1, 1995, detailing other DOD functions that could use the NTF's computing capabilities.

Additionally, the committee directs the Comptroller General to submit a report to the congressional defense committees by January 1, 1995, which examines possible uses of the NTF by other agencies. The study should include but not be limited to: (1) leakage; (2) support to the Department of Education through the development of on-line educational software; (3) support to the Department of Health and Human Services through the development of an on-line medical imagery repository; (4) support to the Federal Emergency Management Administration through the development of innovative emergency reaction simulations; and (5) support for the National Oceanic and Atmospheric Administration through climatological modeling.

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No language exists.

NATIONAL TEST FACILITY (CONTINUED)

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No language exists.

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No language exists.

NATIONAL TEST FACILITY (CONTINUED)

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No language exists.

NATIONAL TEST FACILITY (CONTINUED)

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No language exists.

HIGH ENERGY LASER SYSTEMS TEST FACILITY
(HELSTF)

HIGH ENERGY LASER SYSTEMS TEST FACILITY (HELSTF)

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High energy laser systems test facility (HELSTF)

The committee is disappointed that the budget request did not include funds for the high energy laser systems test facility at White Sands Missile Range. Such action prejudices the results of the high power laser review required by the statement of managers accompanying the conference report on the National Defense Authorization Act for Fiscal Year 1994 (H. Rept. 103-357). The committee understands that the long-term requirements for HELSTF are being addressed in that study, which the Defense Department hopes to complete by late June 1994. The committee further understands that, in addition to the current testing by the Navy for ship defense against cruise missiles, significant new customers, including a joint Israeli Ministry of Defense-Army test program, have been identified for the facility.

The committee continues to regard this tri-Service facility as a central component of the dwindling U.S. high power laser technology base and recommends \$20.0 million to PE 065605A to continue its operation, including \$2.5 million to pay for the U.S. share of the nautilus test program.

HIGH ENERGY LASER SYSTEMS TEST FACILITY (HELSTF) (CONTINUED)

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High energy laser systems test facility

The budget request included no funds for the DOD high energy laser systems test facility (HELSTF).

The Senate bill would authorize \$20.0 million for HELSTF, of which \$2.5 million is available to carry out the U.S. share of the Nautilus tactical laser effort with Israel.

The House amendment included no funds for HELSTF.

The House recedes. As pointed out in the High Power Laser Guidance Report submitted by the Department of Defense to Congress in June 1994, HELSTF is the only integrated, megawatt-class laser facility with the only fully instrumented high-power laser range and environmentally-approved test area available to DOD. It will be used not only for the Army Nautilus program, but for the Navy point defense demonstration and the Air Force airborne laser lethality demonstration as well. The conferees agree that the Joint Directors of Laboratories (JDL) Technology Panel for Directed Energy Weapons should seek to ensure the role of HELSTF as an affordable and cost-effective DOD research and test facility to support both high-power laser and optical tracking programs. The panel should do this by determining how best to reduce overhead costs through automation and other restructuring measures. The conferees expect to see this important facility, including any facility improvements recommended by the JDL, included in the fiscal year 1996 budget request.

DOD HIGH ENERGY LASER SYSTEMS TEST FACILITY (HELSTF)

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No language exists.

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DOD HIGH ENERGY LASER SYSTEMS TEST FACILITY

The Army did not request any funds for the DOD High Energy Laser Systems Test Facility (HELSTF). The Committee recommends \$24,808,000, the same level of funding provided in fiscal year 1994. These funds are to be used only for the continued operation of HELSTF, including \$10,000,000 only for the Sea Life Beam Director. These funds are not to be used for any studies to curtail the operation and maintenance of HELSTF, to begin shutdown procedures of the high energy laser system, or to initiate reduction-in-force of civilian personnel during fiscal year 1995.

The Committee is adamant that HELSTF be fully operational during fiscal year 1995. Any future proposal of the Army to reduce or curtail activities at HELSTF shall only be made along with a budget submission so that Congress has the opportunity to consider the request.

In addition, the last two Appropriation Committee conference reports have called for a report on the long-term plan for HELSTF. The Committee requests the report again and directs that no more than one-half of the funds for program element 0605601A, Army Test Ranges and Facilities, may be obligated until the report is provided.

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DOD high-energy laser test facility [HELSTF].—This program element supports the operations of the Defense Department's only high-energy laser system test facility. The Committee approves \$20,000,000 as an increase to the budget request to maintain HELSTF funding at the fiscal year 1994 level. The House allowance added \$24,808,000 for HELSTF.

The Defense Department recently informed the Congress that no experiments had been identified for HELSTF for fiscal year 1995 and that it was continuing to assess the facility's role in any future plans for development of high energy laser technologies. The Committee directs the Department to submit a detailed report on this assessment no later than April 1, 1995.

The Committee's recommendation for fiscal year 1995 is intended to provide for the basic operations and support of HELSTF and is not intended to provide funds for any armed service to undertake a tactical high-energy laser program. The Committee directs that, should the Department wish to allocate funds for such a program in fiscal year 1995, it must consult with, and notify, the congressional defense committees at least 45 days before any proposed obligation of funds.

Any notification about a tactical laser program must include a certification from the Under Secretary of Defense for Acquisition and Technology that ongoing nonlaser programs are inadequate to counter the likely threats, and that the proposed program is fully funded in the fiscal years 1996-2001 Future Years Defense Program. Should the program include any other nation, the certification also must provide a copy of the signed memorandum of agreement with that nation and must identify that nation's direct financial contributions to the program.

HIGH-ENERGY LASER SYSTEMS TEST

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STATUTORY LANGUAGE:

No language exists.

FACILITY (HELSTF) (CONTINUED)

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HIGH ENERGY LASER SYSTEM TEST FACILITY (HELSTF)

The conferees agree to provide \$24,808,000 for this program element. The conferees agree with the Senate report language with respect to HELSTF with two exceptions. The conferees agree that the restrictions imposed by the Senate shall not apply to the Joint U.S.-Israel Lethality Test (Nautilus) project. The conferees agree that this project is within the scope of the usual lethality testing activities conducted at HELSTF. However, they also agree that any follow-on tactical laser development program arising from the Nautilus project would be subject to the Senate's requirements. The conferees further agree that any certification regarding a tactical high energy laser program should identify, to the extent practicable, the direct financial contributions of any foreign nation participating in such an activity.

CONSULTANTS

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No language exists.

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No language exists.

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No language exists.

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(i) *The total amount appropriated to or for the use of the Department of Defense in title IV of this Act is reduced by an additional \$62,634,000 to reflect savings from the decreased use of non-FFRDC consulting services by the Department of Defense.*

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The Committee's focus on reducing funding for defense federally funded research and development centers, other nonprofit federally funded research institutions, and university affiliated research centers is not intended simply to transfer spending to other entities. As the overall defense budget declines, the Committee believes that all major components of the defense infrastructure must be examined for reasonable reductions. In this regard, the private sector consultant community which services the Defense Department also must bear its share of the defense drawdown.

Accordingly, the Committee recommends bill language to reduce total funding during fiscal year 1995 for consultants not affiliated with defense FFRDC's, other nonprofit federally funded research institutions, and university affiliated research centers by \$62,634,000 and to reduce RDT&E spending by that amount.

CONSULTANTS

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

BILL LANGUAGE:

No language exists.

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

REPORT LANGUAGE

No language exists.



OVERSIGHT, CONSULTATION, & NOTIFICATION

OVERSIGHT, CONSULTATION,
& NOTIFICATION (CONTINUED)

HOUSE FY95 DOD AUTHORIZATION BILL
H.R. 4301; H.REPT. 103-499 (5/10/94)

BILL LANGUAGE:

No language exists.

SENATE FY95 DOD AUTHORIZATION BILL
S. 2182; S. REPT. 103-282 (6/14/94)

REPORT LANGUAGE

No language exists.

OVERSIGHT, CONSULTATION, & NOTIFICATION (CONTINUED)

FY95 DOD AUTHORIZATION CONFERENCE REPORT
S. 2182; H.REPT. 103-701 (8/12/94)

BILL LANGUAGE:

No language exists.

FY95 DOD AUTHORIZATION CONFERENCE REPORT
S. 2182; H.REPT. 103-701 (8/12/94)

REPORT LANGUAGE

No language exists.

OVERSIGHT, CONSULTATION & NOTIFICATION

HOUSE FY95 DOD APPROPRIATIONS BILL
H.R. 4650; H.REPT. 103-562 (6/27/94)

BILL LANGUAGE:

No language exists.

REPORT LANGUAGE

No language exists.

SENATE FY95 DOD APPROPRIATIONS BILL
H.R. 4650; S. REPT. 103-321 (7/30/94)

BILL LANGUAGE:

No language exists.

REPORT LANGUAGE

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OVERSIGHT, CONSULTATION, AND NOTIFICATION

The Committee reemphasizes the importance it places on funds being executed only for the purposes for which they were requested, justified, and appropriated. Therefore, the Committee requires that advance notification to, and advance consultation with, the Committee occur in the following cases: (a) for new program, project, or subproject starts or for significant realignments of funds within program elements or projects during the fiscal year; a significant realignment is any movement of funds exceeding \$4,000,000, or any movement of funds which would support a major change in program scope, content, structure, schedule or cost; (b) for below-threshold reprogrammings or funding reallocations which begin studies, cost and operational effectiveness analyses, and acquisition milestone documentation; (c) for reallocations of any unobligated or deobligated funds for any program terminated during fiscal year 1995 or proposed for termination in the fiscal year 1996 budget request.

INTERPRETATION OF REPORT LANGUAGE

The Defense Department and its components are directed to consult with the relevant Committee on Appropriations without delay if questions arise as to the accurate interpretation of language, guidance, or direction contained in a respective Committee report. With respect to questions regarding a conference report and joint explanatory statement of the committee of conference, the Department and its components are directed to consult without delay with both Committees on Appropriations. The Committee directs that these consultations occur prior to the Department or any of its components taking any action which might be affected by the language in question.

OVERSIGHT, CONSULTATION,

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

BILL LANGUAGE:

No language exists.

& NOTIFICATION (CONTINUED)

FY95 DOD APPROPRIATIONS CONFERENCE REPORT
H.R. 4650; H.REPT. 103-747 (9/26/94)

REPORT LANGUAGE

No language exists.