

PROJECT MANAGER, UTILITY HELICOPTERS

**BLACK HAWK IMPROVEMENT PROCESS
STANDING OPERATING PROCEDURES
BH-002**

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**U.S. Army Aviation and Missile Command
Utility Helicopters Project Management Office
AMSAM-DSA-UH
Redstone Arsenal, AL 35898-5270**

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	Purpose	3
2.0	Background	3
3.0	Approach	4
4.0	Integrated Product Team	4
5.0	Submitting BLACK HAWK Improvement Program Candidates	5
6.0	Processing BLACK HAWK Improvement Proposals	6
7.0	BLACK HAWK Improvement Program Processing Schedule	8
8.0	BLACK HAWK Improvement Program Implementation Funding Programs	9
9.0	Format for Submitting BLACK HAWK Improvement Program Candidates...	14
<u>Figure</u>	<u>Title</u>	<u>Page</u>
4.0	Overarching Integrated Product Team (OIPT)	5
6.0	Baseline BLACK HAWK Improvement Program (BHIP) Process	7
7.0	BLACK HAWK Improvement Program Schedule for Modifications Implemented by ECP	8
<u>Annex</u>	<u>Title</u>	
A	1999 UH-60 System Improvement (SIP) List	16
B	BLACK HAWK Improvement Program Priority Issues	18
C	BLACK HAWK Improvement Program Safety Priorities	19
D	BLACK HAWK Improvement Program Operating and Support Costs Drivers Priorities	21
E	BLACK HAWK Improvement Program Mission Effectiveness Priorities	22
F	BLACK HAWK Improvement Program Unit Maintenance Drivers Priorities	.24
G	BLACK HAWK Improvement Program Priorities Preliminary Process/Technical/Personnel Solution Format	25
H	Quad-Services H-60 Operating and Support Cost Driver	26

BLACK HAWK IMPROVEMENT PROCESS

1.0 Purpose

Department of Defense (DOD) strategic goals will be accomplished in part by attaining a specific UH-60 fleet configuration and density through phased major changes and improvements to the UH-60 fleet. These are defined in the Aircraft System Improvement Plan (SIP) List. This document describes the process used by the Utility Helicopters Project Manager's Office (UH PMO) for managing all recommendations for improving and changing the UH-60 BLACK HAWK helicopter. This process is to assure that persons and organizations that supply, use and support the BLACK HAWK are encouraged to identify and submit proposed changes and modifications to the UH-60 that are focused on UH-60 priority needs (see Section 3.0 below) to the appropriate U.S. Army Aviation and Missile Command (AMCOM) organization for processing. This will assure that participants in the improvement process will know the UH PMO priorities for improvement, how recommendations for improvement are prepared and submitted to AMCOM, and by whom, how and when these recommendations will be processed. This document also identifies in the annexes the UH PMO's present priorities for BLACK HAWK improvements and changes. These priorities will be updated at least annually.

2.0 Background

BLACK HAWK improvements are constantly being identified, evaluated, and implemented for the purpose of improving safety, reducing TOC, improving mission effectiveness, and reducing unit equipment maintenance hours. The UH PMO also solicits change/improvement candidates from BLACK HAWK Original Equipment Manufacturers (OEMs), users and supporters, so those viable candidates may be evaluated for funding and implementation. Several Department of Defense (DOD) programs have been instituted to encourage and provide the methodology for all persons and organizations that supply, use and support the BLACK HAWK to identify and submit required and/or proposed changes to the appropriate AMCOM organization. There are also multiple, but limited, non-UH PMO funding sources available for implementing approved BLACK HAWK improvements. These funding sources are provided by the following agencies and are discussed in Section 8.0 below:

- UH PMO
- U.S. Army Material Command (AMC)
- Department of the Army (DA)
- Department of Defense (DOD)
- Defense Logistics Agency (DLA)

Therefore, a single process is required to assure that:

- Priorities are identified
- Appropriate candidates that affect UH-60 processes, technology and/or personnel are submitted to the UH PMO through the appropriate program
- Candidates are evaluated on their own merits and against other like candidates for their support of BLACK HAWK improvement priorities
- Proposals are linked to the appropriate funding source to include the DOD budget process
- Plans are developed to efficiently and effectively fund and field approved proposals.

3.0 Approach

The UH PMO has a defined and coordinated process for submitting and processing recommended improvements/changes to the BLACK HAWK. This approach is required because of the multiple organizations involved, number and variety of improvements recommended, multiple sources of these recommendations, limited resources for processing recommended improvements, and requirement to obtain the maximum return on investment. The UH PMO establishes priorities for improvement and allocation of resources as shown in Annex B to support the SIP List shown in Annex A. These high, medium and low priorities of Annex B were derived from Annexes C, D, E and F as follows:

- Safety of personnel and equipment: any identified condition that will place personnel and/or equipment at unacceptable levels of risk will be corrected. This may require program modification, reallocation of resources, and reordering of priorities, all of which will be accomplished to assure required safety.
- Total Ownership Cost Reduction (TOCR): it is a constant requirement to obtain the maximum return on the investment of scarce resources. The prioritized list shown in Annex D has been extracted from Annex H that is a compilation of H-60 high operating and support cost drivers identified by the Army, Navy, Air Force, and Coast Guard. The intent of this list is to identify candidates that will produce the greatest return on investment by reducing BLACK HAWK TOC, i.e., acquisition, and operating and support costs.
- Mission effectiveness: all hardware improvements will be directed to improving equipment operational availability and effectiveness. This will include:
 - Enhancing performance to assure mission accomplishment
 - Improving equipment reliability, availability, and maintainability (RAM)
 - Reducing weight, space, and power requirements
 - Standardization of components
 - Use of commercial and non-developmental items (CANDI)
 - Use of common and dual use components
 - Use of performance specifications.
- Unit Maintenance Drivers: processes that drive unit maintenance will be evaluated for corrective actions in concert with the efforts to improve safety, reduce TOC, and improve mission effectiveness. These maintenance-driving candidate priorities identified in Annex F were determined from maintenance events and maintenance hours expended to return UH-60s to fully mission capable.

4.0 Overarching Integrated Product Team (OIPT)

The BHIP OIPT, listed in Figure 4.0, will establish long-term policies and procedures for defining and managing changes to the Quad-services H-60 fleet. The BHIP OIPT will make the final decisions on which proposed candidates will be implemented. The following are the organizations represented on the BHIP OIPT and were selected because they:

- Make decisions on what improvements will be made to the H-60 fleet and how resources will be allocated
- Have the responsibility for determining and recommending changes to the H-60 fleet
- Have the responsibility for implementing changes to the H-60 fleet
- Are affected by changes to the H-60 fleet.

ORGANIZATION	OFFICE SYMBOL	PHONE
Utility Helicopters Project Manager	AMSAM-DSA-UH	256-955-8938 DSN645
Aviation and Missile Research, Development and Engineering Center	AMSAM-RD-AE	256-313-4898 DSN897
Integrated Materiel Management Center	AMSAM-MMC-VS-U	256-313-1617 DSN897
U.S. Army Safety Center	CSSC-Z	234-255-2461 DSN558
US Army Aviation Center (USAAVNC) Directorate of Combat Development	ATZQ-CDM	234-255-3220 DSN558
Directorate of MEDEVAC Proponency	MEPD (MCCS-FM)	234-255-1166 DSN558
Directorate for Combat and Doctrine Development for MEDEVAC	MCCS-FCR	221-211-1334 DSN471
DA DCSOPS	DAMO-FDV	703-697-2277 DSN225
DA DSCLOG	DALO-AMV	703-697-0487 DSN227
ASA(ALT)	SAAL-SA	703-604-7214 DSN664
U.S. Navy	PMA 299	301-757-5409 DSN757
U.S. Air Force	WR-ALC/LU	912-926-2826 DSN468
U.S. Coast Guard	G-SEA-14	202-267-0193
U.S. Army National Guard	AMSAM-MMC-RE	256-313-1645 DSN897
Defense Contract Management Command	DCMC Sikorsky-RA	203-386-6766
Other PMs and Government Agencies	As Appropriate	
Contractors	As Appropriate	

Figure 4.0 Overarching Integrated Product Team (OIPT)

5.0 Submitting BLACK HAWK Improvement Program Candidates

BLACK HAWK Improvement Program candidates will address safety, total ownership cost reduction, mission effectiveness, and/or unit maintenance drivers. There are clearly established procedures for safety and mission effectiveness improvements. There are several methods industry and Government organizations and personnel can use to submit TOCR candidates. Information on these methods may be obtained from the BLACK HAWK Value Engineering Office: DSN 897-0240 (commercial 256-313-0240); Fax DSN 788-7353 (commercial 256-842-7353); or E-mail craig.ailles@rdec.redstone.army.mil.

5.1 Safety Candidates

An unsafe condition, operational procedure or maintenance procedure for the BLACK HAWK, mission related equipment, component/module, or repair part for which the item use is critical to airworthiness, and failure could be expected to cause loss of the aircraft and/or serious injury to the aircrew or ground personnel, must be immediately reported to the UH PMO for resolution. Submittals will be by telephone (DSN 788-6665 or Commercial 256-842-6665), e-mail (cfo@redstone.army.mil), or hard copy (AMSAM-MMC-RE-FF) in accordance with DA PAM 738-751. These will be immediately processed by UH PMO. Current safety issues that must be addressed are shown in Annex C.

5.2 Total Ownership Cost Reduction Candidates

Since its introduction into the U.S. Army inventory, there have been extremely active and successful efforts in reducing the TOC of the BLACK HAWK. This effort is a continuous process that has received increased emphasis in the last couple of years. This increased emphasis is a result of

decreasing defense budgets and the need to upgrade and modernize the Army even as funding is decreased. Subsequently, several programs to encourage and fund TOCR efforts have been added to the traditional ones.

The UH PMO must concentrate its scarce resources on implementing those changes to the BLACK HAWK that will provide the greatest return on investment for improving safety and increasing mission effectiveness and unit readiness while reducing TOC. As such, the UH PMO has reviewed multiple databases in order to define the high TOC drivers. The results of this effort are shown in Annexes D and H. The high TOC drivers are identified to the appropriate component level that requires investigation and grouped by major subsystem. Additionally, the cause for a component being a high TOC driver is described. This listing of high TOC drivers will change as problems are solved and other components assume a higher priority. Subsequently this list will periodically be changed and republished. It is requested that readers review this list and submit any recommendations for components that should be included. Transmit these recommendations to the address shown in Section 9.0 below. In addition to hardware improvements, it is encouraged that process changes that will reduce O&S cost be submitted to the UH PMO.

5.3 Mission Effectiveness Candidates

Most BLACK HAWK improvements are either directly or indirectly related to improving mission effectiveness. Those improvements related to changing missions and threats, and advances in technology are identified at the UH PMO level and above. These improvements are introduced into the fleet through the established program and budget process. Improvements required by the failure of the BLACK HAWK to operate as designed or due to equipment failure (Category I or Category II deficiency) are addressed on an as-required basis and reported in accordance with DA PAM 738-751. These cases must be identified at the user level and provided to the UH PMO so they can be prioritized for funding and implementation.

Recommended improvements that do not qualify as Category I or II Deficiencies should be submitted in accordance with DA PAM 738-751 using established methods. For contractors, submittal methods will be an Engineering Change Proposal (ECP) or Value Engineering Change Proposal (VECP). For military and civilian Government personnel, submittal methods will include the Army Ideas for Excellence Program (AIEP), Value Engineering (VE) Program, DA Form 2410, and DA Form 2028. Informal methods include Logistic Assistance Representative (LAR), Maintenance Engineers, BLACK HAWK Users' Conference, Team Hawk, and Site Visits. Annex E lists the current prioritized issues for enhancing mission effectiveness.

5.4 Unit Maintenance Drivers Candidates

Annex F lists unit maintenance driver candidates. These were determined primarily from maintenance hours expended to return an aircraft to fully mission capable. For example, a relatively inexpensive secondary item may have a high failure rate and require a relatively high number of maintenance hours to remove and install. This type item is considered a unit readiness driver and would be listed in Annex F.

6.0 Processing BLACK HAWK Improvement Proposals

A systematic process has been established for the BHIP Program. The general approach is depicted in Figure 6.0. This process is based on the following guidelines:

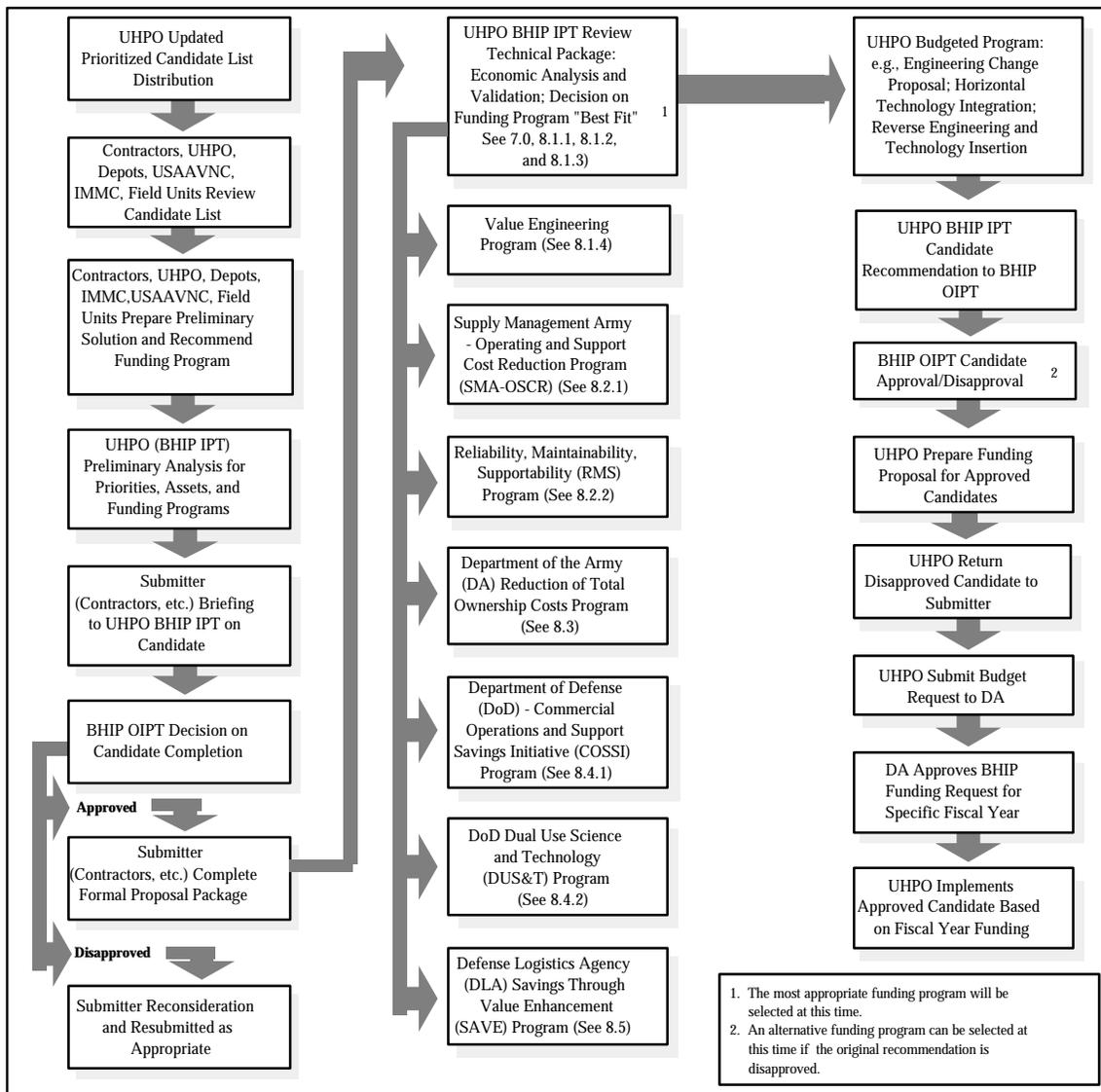


Figure 6.0 Baseline Black Hawk Improvement Program (BHIP) Process

- The UH PMO must use their scarce resources in implementing improvements to the BLACK HAWK that will result in the greatest return on investment
- The UH PMO will establish and broadcast its highest priorities for improvement
- BLACK HAWK suppliers, users and supporters will be encouraged to recommend process/technical/personnel approaches to accomplish the prioritized improvements
- BLACK HAWK suppliers, users and supporters will submit a brief description of their process/technical/personnel approach so that it can be reviewed and approved/disapproved before appreciable resources are expended by the submitter or UH PMO
- BLACK HAWK users and supporters, with support from the UH PMO, will submit complete proposal packages, to include the proposed funding source, for those candidates that have been previewed and approved by the BHIP OIPT
- The BHIP OIPT will approve or disapprove the formal submittal
- The BHIP OIPT will determine the best funding source to be used for the approved candidates
- The UH PMO will initiate the actions required to compete for the improvement implementation funding.

7.0 BLACK HAWK Improvement Program Processing Schedule

ID	TASK	Start	Finish	O	N	D	J	F	M	A	M	J	J	A	S
1	UHPO Updated Prioritized Candidate List Distribution	1 Oct	1 Oct	◆											
2	Contractors, UHPO, Depots, USAAVNC, IMMC, Field Units Review Candidate List	1 Oct	15 Oct	■											
3	Contractors, UHPO, Depots, USAAVNC, IMMC, Field Units Select Candidate, Prepare Preliminary Proposed Solution and Submit to UHPO	16 Oct	15 Dec	■	■	■									
4	UHPO (BHIP IPT) Review Priorities and Assets	16 Dec	28 Feb			■	■	■							
5	UHPO (BHIP IPT) Compare Preliminary Proposed Solution with Prioritized Candidate List	16 Dec	28 Feb			■	■	■							
6	BHIP IPT Perform Preliminary Analysis and Forward Results to Submitter	1 Mar	15 Mar						■						
7	Submitter (Contractor, etc.) Briefing to BHIP OIPT (60 minutes)		At Black Hawk Users' Conference						■						
8	BHIP OIPT Decision on Continuing Effort on BHIP Candidate		At Black Hawk Users' Conference						◆						
9	Submitter (Contractor, etc.) Complete Formal Proposal Package and Submit to UHPO	Mid-Mar	1 May						■	■					
10	UHPO (BHIP IPT) Reviews Technical Package	1 May	30 Jun								■	■			
11	UHPO (BHIP IPT) BHIP Program "Best Fit"	1 May	30 Jun								■	■			
12	UHPO (BHIP IPT) Economic Analysis	1 May	30 Jun								■	■			
13	AMCOM Economic Analysis Validation	1 May	30 Jun								■	■			
14	UHPO (BHIP IPT) Prepare Candidate Submission for Approval	1 Jul	23 Jul										■		
15	UHPO (BHIP IPT) Candidate Submission to BHIP OIPT for Review	24 Jul	24 Jul										◆		
16	BHIP OIPT Candidate Approval/Disapproval	25 Jul	31 Jul										■		
17	UHPO Prepare Funding Proposal for Approved Candidates	1 Aug	31 Aug											■	
18	UHPO Return Disapproved Candidates to Submitter	1 Aug	1 Aug										◆		
19	UHPO Submit Funding Request to Department of the Army	1 Sep	7 Sep												■
20	Department of the Army Approves BHIP Funding Request and Designates Fiscal Year Funding	8 Sep	30 Sep												■
21	UHPO Implements the Approved Candidate Based on Fiscal Year Funding	Unk	Unk												

Notes: Dates shown are close approximations. These will vary each year based on scheduled Black Hawk Conferences and Program Progress Reviews (PPRs).

Figure 7.0 Black Hawk Improvement Program Schedule for Modifications Implemented by ECP

There are “windows-of-opportunity” for submitting BLACK HAWK Improvement candidates, i.e., specific times to submit a candidate to the UH PMO to assure sufficient time for review, approval, preparation of appropriate documentation, and submittal to a specific funding source for their

consideration for appropriation of funds. Figure 7.0 displays the schedule for candidates that require UH PMO budgeted funds for implementation. The UH PMO will implement this schedule every year with the individual activities occurring on the approximate dates shown. The actual dates will vary with scheduled BLACK HAWK conferences and Program Progress Reviews (PPRs). Following this schedule will assure that this type of approved BHIP is entered as quickly as possible into the DA budget process. If the BHIP candidate misses this schedule, it will be processed in the next fiscal year. Exceptions to this schedule will be addressed on a case-by-case basis.

Although there are specific “windows-of-opportunity” for some of the funding programs as described in Section 8.0 below, BHIP candidates should be submitted as soon as they are identified. If a specific “window” is missed, the candidate will be processed for the next “window”. The early submittal will provide additional time for processing and, if warranted, the candidate may receive accelerated processing.

8.0 BLACK HAWK Improvement Program Implementation Funding Programs

There are five (5) funding sources with multiple programs that can be used to implement changes to improve safety and mission effectiveness, and reduce unit maintenance while reducing TOC. The following provides a definition of these programs, their qualification parameters, and “window of opportunity”.

8.1 Utility Helicopters Project Office

The UH PMO must budget for improvements to the BLACK HAWK that cannot be funded by other sources. These improvements are accomplished through an Engineering Change Proposal (ECP) or Value Engineering Change Proposal (VECP). The processing schedule in Section 6.0 above describes implementation of an ECP and VECP. The format for submitting BHIP candidates for consideration is discussed in Section 9.0 below.

8.1.1 Engineering Change Proposal

An Engineering Change Proposal shall be required for any change to the current approved configuration documentation. ECPs shall be classified as Class I or Class II in accordance with guidelines established in MIL-STD-973. There are two types of Class I ECPs, Preliminary and Formal. The type of Class I ECPs appropriate to the circumstances shall be selected in accordance with the following definitions and guidelines.

8.1.1.1 Preliminary ECP (PECP) (Type P)

A preliminary engineering change proposal is the type that may be submitted to the Government for review prior to the availability of the information necessary to support a formal ECP. It shall include a summary of the proposed changes, its impact on related areas, and a justification. A preliminary ECP may be prepared and submitted for one of the following purposes.

- To furnish the Government with available information in order to permit:
 - A preliminary evaluation related to the merits of the proposed change (e.g., installation of a proposed change for the purpose of evaluation and testing prior to making a final decision to proceed with a proposed change): or

- A determination regarding the desirability of continuing expenditures required to further develop the proposal.
- To provide alternative proposals
- To supplement a message to an emergency or urgent priority ECP when it is impracticable to submit a formal ECP within 30 calendar days
- To propose a software change prior to the development of the actual coding changes and to obtain Government approval to proceed with software engineering development.

8.1.1.2 Formal ECP (Type F)

A formal ECP is the type that provides engineering information and other data in sufficient detail to support formal change approval/contractual implementation. When justifying conditions exist, the formal ECP shall be preceded by a satisfactory demonstration and qualification of the proposed change during implementation of a Preliminary PECP phase which will include non-recurring cost for the development, prototyping, testing, qualifying and documenting the proposed changes. When specified and directed by appropriate contract authorization, the Advance Change Study Notice (ACSN) may be used to determine need for either a PECP or an ECP for class I proposed changes.

8.1.1.3 Advance Change Study Notice (ACSN).

When authorized or directed, prior to the preparation of a formal Routine ECP, the contractor and the Government should agree on the need for detail information to be provided about the change idea involved. An ACSN, or a contractor letter summarizing the change idea, shall be used by either the contractor or the Government to identify a topic for a change proposal. However, an emergency, urgent, compatibility, and record type ECP does not require an ACSN prior to submittal.

If the contractor originates a change idea, the required information shall be provided for Government review. Upon receipt of a Government-originated ACSN, the contractor shall evaluate the change idea and any alternative course of action identified by the Government. If authorized to do so by the contract or the ACSN transmittal letter, and if in agreement with the change idea, the contractor shall proceed with preparation of the formal ECP. Otherwise, the contractor shall provide additional information about the change to the Government for further study. However, the contractor shall not proceed with the preparation of the formal ECP until directed by the Government. The contractor shall use DD Form 2616, "Advanced Change Study Notice (AVSN)," when specified in the contract. Detailed instructions on completion of DD Form 2616 are noted in Block 6 through 10 on the form.

8.1.1.4 Engineering Release Record (ERR)

When proposed configuration modifications involve the initial issue and approval of new documentation such as specifications, drawings, or software version descriptions, the documents will be identified on an ERR and submitted with the ECP for contractual implementation and status accounting. ERRs will be prepared on DD Form 1664 in accordance with MIL-STD-973 and submitted per DI-CMAN-80463.

8.1.2 Horizontal Technology Integration

Horizontal Technology Integration (HTI) is to apply common technologies across multiple systems to improve the capabilities of these systems. Specifically, any technology developed for other weapon systems or commercial products that can improve safety and mission effectiveness, and reduce unit maintenance, and/or reduce TOC for the BLACK HAWK should be recommended as a BHIP candidate

to the UH PMO for evaluation and implementation. These HTI (BHIP) candidates will be submitted to the UH PMO as an ECP as discussed in Sections 6.0 and 9.0. Figure 7.0 depicts the ECP schedule.

8.1.3 Reverse Engineering/Technology Insertion (RE/TI)

Reverse Engineering/Technology Insertion (RE/TI) is to affect the future availability of spares and repair parts by the selective application of “state-of-practice” technology. The selection criteria for application of RE/TI to a component would generally include one or more of the following:

- Obsolete or difficult to obtain components
- Elimination of high cost components
- Demonstrated poor reliability
- Demonstrated high maintenance item
- Replacement of a unique item with a common item
- Elimination of long lead time components
- Increased durability of component.

BHIP candidates will be submitted to the UH PMO for evaluation as discussed in Sections 7.0 and 9.0. After technical approval, validation of savings and benefits, and funding approval, the engineering effort will be initiated. At this point, the RE/TI BHIP Candidate becomes an ECP and follows the established procedures for approval and implementation as depicted in Figure 7.0.

8.1.4 Value Engineering (VE)

A BHIP candidate that results in clearly defined contractor acquisition savings, both materiel and/or services, may be submitted as a Value Engineering Change Proposal (VECP) so that the contractor can receive a share of the savings on the AMCOM contract. Usually, VECPs are time-sensitive and should be submitted as soon as they are identified and implemented as soon as possible to maximize savings. A preliminary VECP should be submitted for UH PMO evaluation to assure that contractor assets are expended on only those BHIP candidates that have a good chance of implementation (see Section 9.0 below). The requirements for submitting a complete VECP to the Government are described in Part 52.248 of the Federal Acquisition Regulation (FAR).

8.1.5 Cooperative Research and Development Agreement (CRADA)

An excellent method of incorporating new technology into the BLACK HAWK is through a CRADA. These cooperative agreements will be between industry and Government agencies responsible for the particular technology being addressed. In most cases, the associated costs of this program will be shared among the participants. It is necessary that CRADA's be coordinated with and approved by UH PMO to assure that the new technology will support the priorities established by the UH PMO and that assets will be available for implementation.

8.2 U.S. Army Materiel Command

The U.S. Army Materiel Command (AMC) has two (2) programs for funding BLACK HAWK improvements that reduce TOC of secondary items and end items repaired at the depot level.

8.2.1 Supply Management Army-Operating and Support Cost Reduction (SMA-OSCR)

The non-recurring engineering design costs for a TOCR proposal that 1) reduces secondary item acquisition costs, 2) extends the life of the item, and/or 3) improves reliability, maintainability, and supportability, may be funded through the SMA-OSCR Program. This program, given a validated economic analysis, will fund secondary item SMA-OSCR projects (e.g., engineering studies) that involve:

- Redesign of an individual item or an assembly of items
- Development and validation of new and specific maintenance or repair applications or procedures (to include the design of repair kits) that permit repair/rebuild of an item rather than a replacement or
- “Minor” modifications of the end item configuration through the addition of one or more component parts that extend the life of another component that is otherwise unchanged (e.g., the addition of a capacitor to extend the life of a battery)
- Development of a prototype(s) of the item and the system and subsystem testing necessary for integration and checkout of the new secondary item(s). Complete details of this process are available from the UH PMO.

SMA-OSCR is managed and funded by AMC. SMA-OSCR funds programs that reduce Operating and Support (O&S) costs for secondary items. This program provides Army Working Capital Funds (AWCF) for the redesign, prototype, and test of proposed components. A project that requires funding of greater than \$250k is submitted to AMC headquarters and requires an Economic Analysis (EA) that has been validated by the cognizant cost analysis organization. The project should result in a Savings to Investment Ratio (SIR) of at least 1.5:1 over a ten year period. Projects whose funding requirements are less than \$250k are submitted through AMCOM, require a validated cost comparison, and are limited to a locally allotted pool of funds. Submissions to AMC are usually in November, with selection in January and monetary disbursement in February. Local-level OSCRs are open to continuous submission and funded continually, pending availability of funds.

8.2.2 Reliability, Maintainability, Supportability (RMS)

The RMS program is available to fund projects that reduce O&S costs, with focus on depot repairable items. This program provides Research, Development, Test, and Evaluation (RDT&E) funds for the redesign, prototype, and test of the proposed component. Projects are submitted through AMC headquarters and require an EA that has been validated by AMCOM. Each project should result in an SIR of at least 2.5:1 over a twenty year period. Submissions for RMS projects are received in July, with selection in September and disbursement within the current fiscal year.

8.3 Department of Army

DA has established one program, the “Reduction of Total Ownership Costs” (RTOC) under the control of the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA(ALT)). The RTOC program, also known as “Top Ten - Pick Two”, funds engineering design efforts to reduce secondary item acquisition costs, extend the life of the item, and/or improve reliability, maintainability, and supportability. This applies to components, assemblies, and/or modules of presently fielded systems. RTOC candidates that affect the BLACK HAWK will become part of the BHIP and submitted by the UH PMO to ASA(ALT). These must save 100% of the engineering design costs within five Program Office Memorandum (POM) years. An EA must be provided for each BHIP candidate and is

validated by AMCOM. Submission and funding resources are continuously available and should be submitted to the UH PMO as they are identified. Selection will occur after candidate submission.

8.4 Department of Defense

DOD has established two programs to incorporate existing commercial technologies into military weapon systems; funding for both are approved by DOD. However, those candidates that affect the BLACK HAWK must be coordinated with the UH PMO before submitting to DOD.

8.4.1 Commercial Operations and Support Savings Initiative (COSSI)

COSSI leverages technology developments made by commercial firms to reduce the operating and support (O&S) costs of legacy systems. These technology insertions reduce DOD's O&S costs by increasing component reliability, reducing the costs of spare parts and maintenance, and improving the efficiency of test equipment. COSSI funds 75% of the non-recurring engineering, testing and qualification needed to adapt a commercial item for use in a military system; the proposers will fund 25% of the effort. Selected proposers develop, manufacture, and deliver prototypes to a military customer for installation into a fielded DOD system. Each prototype consists of a commercial item, or a combination of commercial items adapted, qualification-tested, and readied for insertion.

COSSI seeks proposals submitted by firms or teams that include at least one for-profit firm. Request for proposals are announced in the Commerce Business Daily (CBD), usually early in a calendar year. The proposals must include written support from a "Military Customer" defined as the organization with the authority to modify the system and purchase the kits. Therefore, for COSSI candidates that affect the BLACK HAWK, the proposers must have a signed document from the UH PMO for submittal with the COSSI proposal stating that the UH PMO will purchase reasonable production quantities of the prototype. The COSSI proposal will include target prices and projected quantities to be purchased by the UH PMO. Generally, the UH PMO will purchase production quantities:

- Using sole source procedures
- At a fair and reasonable target price agreed upon at the time of COSSI proposal submittal
- Without requiring proposers to provide detailed cost or pricing data. (Section XII of the FAR permits price (as opposed to cost) based procurements for commercial items that have been modified for military use).

8.4.2 Dual Use Science and Technology (DUS&T)

The purpose of the DUS&T is to partner with industry to jointly fund the development of dual use technologies applicable to both military and commercial use. The military services will issue a joint Broad Agency Announcement (BAA) in the Commerce Business Daily, usually early in a calendar year, for projects that meet the following minimum requirements:

- Project is developing a dual use technology
- At least 50% of project cost is paid by industry and 50% of DOD share is paid by the Service
- Award must be based on competitive procedures
- Projects must be awarded using non-procurement agreements or other transactions.

The projects will be ranked on quality of industry cost share, military benefit, commercial viability, and technical and management approach. Projects that affect the BLACK HAWK should be coordinated

with the UH PMO to assure that technology will be implemented and that the proposal's economic analysis is accurate.

8.5 Defense Logistics Agency (DLA)

The DLA has initiated the "Savings Through Value Enhancement" (SAVE) Program. The SAVE program is funded and managed through DLA and applies to DLA managed items. This initiative seeks to reduce acquisition costs of secondary items and to extend their useful lives. Submission and funding resources are continuously available. Project plans submitted for approval must be submitted as a VECF (see Section 8.1.4 above) and include a cost/benefit analysis. DLA funds AMC organizations to conduct and support VE studies on items for which they are the procuring agency and accepts proposals for potential approval which demonstrate an SIR of 10:1. BHIP candidates for the SAVE Program will be technically evaluated by the UH PMO. Therefore, when the SAVE VECF is submitted to DLA, a copy should be sent to the UH PMO to assure a timely technical evaluation.

9.0 Format for Submitting BLACK HAWK Improvement Program Candidates

BLACK HAWK Improvement Program candidates will be submitted in two steps in order to assure the optimum utilization of both submitter and UH PMO resources. The first step will be the Preliminary Process/Technical/Personnel Solution to an identified problem and the second step will be the Formal Proposal Package for BHIP OIPT-approved Preliminary Process/Technical/Personnel Solution. Preliminary Process/Technical/Personnel Solutions will be submitted electronically to bhip.ideas@uh.redstone.army.mil. Electronic submittal is also the preferred method for the Formal Proposal Package. However, if this is not practical, hard-copy Formal Proposal Packages may be submitted to:

Commander
U.S. Army Aviation and Missile Command
ATTN: AMSAM-DSA-UH (APM for LUH/ Modifications)
Redstone Arsenal, Alabama 35898

9.1 Preliminary Process/Technical/Personnel Solution

The BHIP IPT will review the Preliminary Process/Technical/Personnel Solution for support of the BLACK HAWK Improvement Program. This review will determine if the proposed BHIP candidate is on one of the Prioritized Candidate Lists. If the candidate is not on a list, it will be evaluated for validity, availability of funding, and return on investment to determine whether it should be considered in the current cycle. If the proposed solution meets these criteria, the submitter will be requested to submit a Formal Proposal Package.

The Preliminary Process/Technical/Personnel Solution (see Annex G) is to be a brief document, summary in content, and consist of the following sections:

- A description of the problem to be solved, i.e., the BHIP candidate to be addressed
- A description of the present method and the cause of the problem associated with the present method
- A description of the proposed solution to the problem
- An estimate of the cost and saving involved and the projected return on investment

- The recommended funding approach, e.g., COSSI, SMA-OSCR, VECP, and the funds that the submitter will invest to develop and implement the proposed solution
- If appropriate, a justification for accelerated processing of the BHIP candidate, e.g., to maximize benefits on an existing parts contract.

9.2 Formal Proposal Package

A Formal Proposal Package (FPP) should be submitted for a BHIP candidate if the BHIP OIPT has indicated a favorable disposition to approving it. This will prevent the expenditure of both submitter and Government resources on proposals that do not meet established priorities or that cannot be implemented in a reasonable amount of time. The format for a contractor submitted FPP should be DD Form 1692, in accordance with MIL-STD-973. This format or the format in Federal Acquisition Regulation (FAR) Part 52.248 is applicable to a VECP.

Government personnel shall submit BHIP candidate FPPs in the format appropriate to the type recommendation, e.g., Army Ideas for Excellence Program, Value Engineering Study, Quality Deficiency Report, DA Form 2028.

9.3 Review of Proposal Package

The UH PMO will utilize a support services contractor pursuant to Federal Acquisition Regulation (FAR) Subpart 37.2 to assist in the evaluation of proposals submitted in accordance with (IAW) the BHIP SOP to change and/or improve the UH-60 helicopter. Unless otherwise noted in their proposal, the submitter agrees that the UH PMO support services contractor may access their proposals for evaluation IAW the BHIP SPOP notwithstanding any proprietary marks that may be contained in the proposal.

Annex A
1999 UH-60 System Improvement Plan (SIP) List

The U.S. Army Aviation Center (USAAVNC), the Aviation Program Executive Office (PEO-AVN) and the U.S. Army Aviation and Missile Command (AMCOM) has approved the 1999 UH-60 SIP List. This SIP List will be reviewed no less than annually and updated accordingly.

The SIP list defines the major changes and improvements to the UH-60 fleet to attain the density and configuration required to accomplish Department of Defense (DOD) strategic goals. All actions initiated in accordance with the BHIP SOP will support these strategic goals.

Priority	Improvement	Description	Status
1	Common Engine Research, Development, Test and Evaluation	This provides RDT&E funding for the UH-60 portion of the Joint Turbine Advanced Gas Generator (JTAGG). It is expected to be a new engine with leap-ahead technology that provides capabilities that will meet the emerging UH-60(X) operational requirements.	RDT&E funding for the JTAGG is included in the UH-60(X) program for FY04 to FY06. There is insufficient funds for both efforts and trade-offs will be required.
2	Mod/Service Life Extension Program (SLEP) (RDT&E)	This is RDT&E funding for the SLEP and upgrade of the existing UH-60 aircraft which will extend the life of the fleet, improve lift and range performance, enhance survivability, and provide a digitized utility helicopter platform. It is commonly referred to as the A to L+ SLEP.	This effort is funded for FY01 to FY03.
3	Flight Simulators	The upgrade of the aging UH-60A flight simulators to UH-60L and UH-60Q standards include doppler, Global Positioning System (GPS), Single Channel Ground and Airborne Radio System (SINCGARS), fuel control panel, and geographical specific database.	An Unfunded Requirement (UFR) has been prepared. The decision is pending for AMCOM to forward to AMC.
4	Digital Source Collector (DSC)	This is a flight data recorder and has the capability to interface with Health Usage Monitoring System (HUMS). It may be able to download flight information following a flight for both maintenance review and after action review.	Unfunded – 2 HUMSs are in demonstration but neither include a crash-worthy memory storage such as DSC.
5	Multi-Year Procurement Aircraft	This will replace \$10M inadvertently deleted from the FY01 procurement of UH-60L aircraft and will avoid disrupting the last year of the production contract.	Funding obtained - action completed.

6	Mod/SLEP (ACFT)	Upgrade of existing UH-60A to UH-60L(+). Planned improvements include service life extension of airframe components, leveraging the UH-60Q cockpit and data bus, Aviation Mission Planning System (AMPS) interface, External Air Particle Separator (EAPS), wide chord main rotor blades, External Stores Support System (ESSS), Improved Data Modem (EDM)/Embedded Battle Command (EBC), improved life and range performance, and possible Joint Tactical Radio System (JTRS). These upgrades improve mission capable rates and reduce Operating and Support (O&S) cost. This SIP issue is for additional Aircraft Procurement Army funding to cover the initial non-recurring effort and qualification to begin low-rate modification in FY03.	Requirements submitted to produce 90 aircraft per year. Funds allocated will support approximately 40 per year.
7	UH-60Q MEDEVAC	The upgrades of the existing UH-60 aircraft (A or L+) to the UH-60Q MEDEVAC configuration provides a modern medical interior, external electric hoist, oxygen generating system, digitized avionics, and bussed electrical system. The UH-60Q cockpit contributes to the baseline for the UH-60 modernization program. This system improvement plan issue is for additional funding to “ramp-up” to a minimum-sustaining rate of 15 aircraft per year, beginning in FY02.	11 UH-60Q aircraft are funded through FY00. POM funding for UH-60Q begins in FY02. Converting UH-60L+ to UH-60Q to start in FY03.
8	MA-16 Inertial Reel	This provides modifications to the Simula Crew Seat to allow safe use of the MA-16 shoulder harness inertial reel.	Completing Modification Work Order in FY00.
9	M240 Machine Gun	As the aircraft’s only organic means of self-protection, this door gun will provide a tremendous increase in reliability and reduction in sustainment costs.	B-Kit for M240 Machine Gun available for aircraft use. A-Kit development and integration is unfunded.

Annex B
BLACK HAWK Improvement Program Priority Issues

The BHIP OIPT has established the following high and medium priorities for improvements to H-60 aircraft based on the information in Annexes C through F and within the parameters discussed in Section 3.0. The primary discriminator for these priorities is the projected costs of these issues if no improvement changes are made. The items on Annexes C through F not shown on this list are defined as low priorities.

Priority	Description	NSN	Proposed Solutions
High	Multiple causes of crashes.		1. Develop and field crashworthy ferry tanks (ERFS).
High	Accidents caused by crew intentionally exceeding established aircraft envelope or causes unknown		1. Monitor/Detect crew high risk behavior 2. Warn pilot of exceedances 3. Determine condition that lead to crash
High	Accidents caused by aircraft colliding with other aircraft/objects		1. Proximity warning system/collision avoidance 2. Improve low speed flight stability and control
High	Engine, Aircraft T700-GE-700 T700-GE-701C T700-GE-401C	2840-01-070-1003 2840-01-284-4011 2840-01-318-5538	Hardware Total Ownership Cost Reduction (TOCR)
High	Blade, Main Rotor	1615-01-106-1903 1615-01-158-9679	Hardware TOCR
High	Main Transmission, UH-60A	1615-01-415-8387 1615-01-375-5874	Hardware TOCR
High	Tail Rotor Blade	1615-01-113-8188	Hardware TOCR
High	Flight Simulators		Hardware TOCR
High	Computer, Digital	7021-01-119-7180 7021-01-334-5509	Hardware TOCR
Medium	Amplifier, Electronic	5895-01-361-2743	Hardware TOCR
Medium	Improper identification of failed engine and shutdown of wrong engine		1. Improved method for engine management 2. Positive association of engine indications with engine controls
Medium	Wire strikes in degraded visual environment		1. Method to avoid wires 2. Method to avoid wire strike damage
Medium	Servo Assembly, Primary	1650-01-143-1226	Hardware TOCR
Medium	Engine, Gas Turbine – APU	2835-01-369-2818	Hardware TOCR
Medium	Module Assembly, Pump	4320-01-207-7228	Hardware TOCR
Medium	Bearings, Plain, Rod End	3120-01-417-0133, -0134,-0135,-0136	Hardware TOCR
Medium	Computer-Display	5841-01-328-2266	Hardware TOCR
Medium	Multiplexer	5895-01-417-7387	Hardware TOCR
Medium	Receiver, Sonobouy	5845-01-327-1320	Hardware TOCR
Medium	Stabilator Assembly	1560-01-222-5123	Hardware TOCR

Annex C
BLACK HAWK Improvement Program Safety Priorities

The BHIP OIPT has established the following priorities for increasing safety of H-60 aircraft. These are non-mandatory safety issues: therefore, solutions are for safety enhancement and will compete with other priorities. The following order of priority is based on the study performed by the Aviation Safety Investment Strategy Team (ASIST). The three primary, weighted discriminators are preventing injury, costs, and frequency of accidents. These are hazards that require materiel solutions; non-materiel solutions are addressed in the ASIST Control Summation Table.

Priority	Accident	Hazard
1	While in a high speed, low altitude turn, aircraft descended into trees, striking the ground.	Crew intentionally exceeding established aircraft envelope could result in loss of control. In one case the Extended Range Fuel System (ERFS) was installed.
2	Multi-ship convergence to a DZ resulted in a midair collision.	Aircraft operations in close proximity under high workload conditions may result in loss of situational awareness and aircraft collision.
3	Aircraft crashed for unknown reason.	Hazard unknown
4	While on a night gunnery mission, the #1 engine output shaft failed due to fatigue, followed by intentional shutdown of #2 engine, resulting in a forced landing. While at night in cruise flight over water, the #2 engine gas generator section failed, resulting in impact.	Crew may be unable to identify a failed engine resulting in a shut down of a properly operating engine in flight and a forced landing.
5	Aircraft tree- strikes in many different mission situations.	Maneuvering without situational awareness in close proximity to trees may result in aircraft striking the trees. Hazard more pronounced at night or during reduced visibility
6	During a night aided roll-on landing in a dusty environment, the main rotor blades contacted the tail rotor drive shaft. Main rotor blades contacted the ALQ-144 antenna during landing	When landing, aft cyclic input may cause contact with aircraft components
7	Multiple causes of crashes.	Occupants may be exposed to post-crash fire by use of non-crashworthy ferry tanks (ERFS).
8	UH-60's flew into known wires while on routine VMC mission, routine NVG mission, and routine NOE mission.	The aircrew's ability to identify all wire hazards may be reduced when crossing known wires at midspan under a degraded visual environment, which may result in a wire strike.
9	While flying into deteriorating weather, aircrew impacted mountainside.	When flying into deteriorating weather, crew may lose ability to maintain a safe flight path as a result of situational awareness.
10	Crew attempted landing as part of a formation into a dusty environment – drifted right and rolled.	Operations in close proximity to unimproved surfaces can result in a degraded visual environment leading to loss of situational awareness

11	Striking objects during ground taxi.	Taxiing in close proximity to objects without situation awareness may result in blade strikes.
12	During approach to landing, crew experienced aircraft power loss, resulting in forced landing with minor damage.	Crew may be unable to react to in-flight emergencies due to lack of proficiency with NVGs.
13	Hoist cable broke during live hoist operation.	Unanticipated fraying and breaking of hoist cable may result in injury to personnel.
14	Injury to crew occurs during crash sequence.	Crew chief/gunner's ability to remain securely positioned in a crash sequence is degraded by 1) use of the gunner's harness and 2) use of a single-mode inertia reel.

Annex D

BLACK HAWK Improvement Program Operating and Support Costs Drivers Priorities

The BHIP OIPT has established the following priorities for improvements to H-60 aircraft based on the information in Annex H and within the parameters discussed in Section 3.0. The primary discriminator for these priorities is the FY98 funds expended to purchase these components.

Priority	Nomenclature	NSN	Part Number
1	Engine, Aircraft	T700-GE-700	6035T00G01
		T700-GE-701C	6071T24G01
		T700-GE-401C	6064T25G01
2	Blade, Main Rotor	1615-01-106-1903	70150-09100-043
		1615-01-158-9679	70150-29100-041
3	Main Transmission, UH-60A	1615-01-415-8387	70351-08100-071
		1615-01-375-5874	70351-08100-074
4	Tail Rotor Blade	1615-01-113-8188	70101-11200-043
5	Computer, Digital	7021-01-119-7180	70901-02903-104
		7021-01-334-5509	70600-01810-102
6	Servo Assembly, Primary	1650-01-143-1226	70410-02820-054
7	Amplifier, Electronic	5895-01-361-2743	70902-02001-048
8	Engine, Gas Turbine – APU	2835-01-369-2818	T-62T-40-1
9	Module Assembly, Pump	4320-01-207-7228	70652-02300-050
10	Computer-Display	5841-01-328-2266	A3154428
11	Multiplexer	5895-01-417-7387	800710009
12	Receiver, Sonobouy	5845-01-327-1320	70600-81827-102
13	Stabilator Assembly	1560-01-222-5123	70200-27000-046
14	Data Converter, Navigation	6605-01-366-7955	8901200529
15	Pitch Trim Servo Assembly	1650-10-375-3160	70410-02561-112
16	Indicator, Horizontal	6605-01-316-2748	132750-5
17	Gyroscope, Displacement	6615-00-453-5670	145974-01-03
		6615-00-159-2298	8KD9AF6
18	Servocylinder	1650-01-305-2375	70410-06520-046
19	Indicator, Vertical	6610-01-155-8315	70450-01040-112
20	Transducer, Sonar	5845-01-452-9973	8054000
		5845-01-452-9699	80139202
21	U/VHF Receiver/Transmitter	5821-01-203-3480	622-6321-001
22	Receiver, Radio, GPS	5626-01-433-1555	622-8078-046
23	Damper, Vibration	1615-01-347-0735	70106-28000-048
24	Reeling Machine, Cable	3895-01-413-7480	8030640
25	Controller, Communication	01-HS1-1347	8900720-523
26	Servocylinder, Rotor Head	6615-01-158-5984	70410-22820-043
27	Battery, Storage	6140-01-205-3057	BA0205
28	Bearing, Plain, Rod End	3120-01-417-0133	SB7110-101
		3120-01-417-0135	SB7111-101
		3120-01-417-0134	SB7112-102
		3120-01-417-0136	SB7112-101
29	Servo, Tail Rotor	6615-01-158-5787	2227000-2
			70410-26520-004
30	Panel Assembly, Caution	1680-01-214-0193	70550-01107-107

Annex E
BLACK HAWK Improvement Program Mission Effectiveness Priorities

The BHIP OIPT has established the following priorities for mission effectiveness improvements to H-60 aircraft within the parameters discussed in Section 3.0. These issues have, for the most part, been addressed and solutions determined. The remaining issue is funding. Subsequently, these are considered a low priority within the context of overall BLACK HAWK Improvement Process.

Priority	Issue	Deficiencies	Proposed Solutions
1	Enemy Weapons Threats	Current H-60 counter-threat measures will require modifications to a more robust configuration to counter future heat-seeking missiles.	Hover Infra-red Suppression System (HIRSS)
2	Small Arms Fire	The BLACK HAWK has no protection in the cabin section from small arms fire. Therefore a bullet would penetrate the entire aircraft.	Armor Blanket for Floor
3	Pilot/Copilot Seat	The current seats have a set seat attenuation for stroking purposes. This attenuation does not take into account the size of the individual occupying the seat. The army has a requirement to accommodate personnel size ranging from 5% female to the 95 % male.	ECP 368
4	Aircraft Power Supplies	The BLACK HAWK, to include Power Supplies, was designed using 1960 technology. The new sophisticated equipment is not capable of handling that type of power fluctuations.	
5	Commonality of Components	The current BLACK HAWK has two manufacturers of Pilots seats. These seats are not form, fit or function interchangeable.	Common Seat
6	Obsolete Systems	Currently, the aircraft uses the M-60 Machine gun that is being phased out and in the future will not be supportable.	M-240 Machine Gun
7	Foreign Object Damage to Engines	Current BLACK HAWK does not have abrasive particles protection. Abrasive particles reduce the performance of the Turbine Engine, and reduce the Life Limit Components to meet their Time Between Overhaul (TBO) specifications for scheduled replacement.	1. Engine Air Particle Separator (EAPS) 2. Inlet Particle Separator (IPS)

8	Premature Failure of Avionics	The BLACK HAWK has installed numerous Pin Filter Adapters on the aircraft to accommodate flying in a highly energized environment. These filters are not an effective solution.	Redesigned Pin Filter Adapters
9	Future Operational and Support Requirements	Upgrade of the existing UH-60 aircraft that will extend the life of the fleet, increase safety, reduce operating and support costs, and enhance performance (e.g., improve lift and range performance, enhance survivability, and provide a digitized utility helicopter platform).	<ol style="list-style-type: none"> 1. Joint Turbine Advanced Gas Generator 2. Service Life Extension of Airframe Components 3. Leveraging the UH-60Q Cockpit and Data Bus 4. Aviation Mission Planning System Interface 5. External Air Particle Separator 6. Wide Chord Main Rotor Blades 7. External Stores Support System 8. Improved Data Modem (IDM)/Embedded battle Command 9. Joint Tactical Radio System
10	Aging Flight Simulators	Present Flight Simulators are for the UH-60 A. These must be upgraded to simulate the UH-60L and UH-60Q to include Doppler, Global Positioning System (GPS), Single Channel Ground and Airborne Radio System (SINGARS), Fuel Control Panel, and Geographical Specific Database.	\$51 Million have been appropriated for this effort.
11	Predicting Maintenance Requirements	Defining components and associated parameters to monitor during operation and recording this data for trending analyses. This will be used for maintenance action to prevent later catastrophic failures.	<p>Digital Source Collector (DSC) to interface with the Health Usage Monitoring System (HUMS) on the UH-60L.</p> <p>No recommended solution for UH-60A (Non-bussed Aircraft)</p>

Annex F
BLACK HAWK Improvement Program Unit Maintenance Drivers Priorities

The BHIP OIPT has established the following priorities for improvements to H-60 aircraft based primarily on FY98 maintenance hours expended to return aircraft to fully mission capable and within the parameters discussed in Section 3.0.

Priority	Nomenclature	FSC	NIIN	Part Number	Maint Hours*
1	Stabilator Actuator	1680	01-211-2856	7040006641114	22749
2	Damper, Vibration	1615	01-347-0735	7010628000048 7010628000047	16045
3	Bearing, Blade Retention	1615	01-158-9606	7010228000045	6775
4	Module Assembly, Pump	4320	01-207-7228	7065202300050	5238
5	Stabilator Assembly	1560	01-222-5123	7020027000043 7020027000044 7020027000046	5112
6	Reeling Machine, Cable	3895	01-413-7480	8030640	3359
7	Cylinder and Piston, Shock Strut Assembly	1620	01-158-5958	7025032011043	2504
8	Cylinder, Pitch Trim Assembly	6615	01-158-5987	7041022760051	2490
9	Servo Assembly, Primary	6615	01-158-5984	2740001033 7041022820043	2351
10	SAS Actuator	1560	01-129-1256	7041002500049	2351
11	Tail Rotor Servo Assembly	6615	01-158-5787	7015029100041	2351
12	Servocylinder, Collective	6615	01-158-5985	7041022910045	2300
13	Servo, Tail Rotor	6615	01-158-5787	222700012 7041026520042	1689
14	Winch, Drum, Power Op	3950	01-252-5457	7085022111115 7085022111117	1279
15	Stabilator Amplifier	1680	01-261-2044	7040006641117	1121
16	Receiver, Sonobouy	5845	01-372-1320	15051001003 7060081827102 R2334ARR84	283
17	Searchlight	6230	01-244-5055	7055301007105	200

*Note: Maintenance Hours are for Navy H-60s. Army data are undergoing analysis.

Annex G
BLACK HAWK Improvement Program
Preliminary Process/Technical/Personnel Solution Format

EXAMPLE

Title of Proposal

1. **Description of Problem**
Provide a brief description of the BHIP candidate to be addressed and the problem to be solved.
2. **Present Method**
Provide a brief description of the present method and the cause of the problem associated with the present method.
3. **Proposed Solution**
Provide a brief description of the proposed solution to the problem.
4. **Cost Analysis**
Prepare an estimate of the cost and saving involved and the projected return on investment. These will include non-recurring, recurring, operating and support, and spares costs.
5. **Funding Program**
Recommend a funding approach to accomplish the improvement e.g., COSSI, SMA-OSCR, VECP, and the funds that the submitter will invest to develop and implement the proposed solution.
6. **Justification for Accelerated Processing**
If appropriate, describe the justification for accelerated processing of the BHIP candidate, e.g., to maximize benefits on an existing parts contract.

Annex H
Quad-Services H-60 Operating and Support Cost Driver

This list compiles the information relative to the H-60 high operating and support cost drivers from the Army, Navy, Air Force and Coast Guard. Annex D is a result of this list.

If required, specific information on Annex H may be requested from the Utility Helicopters Program Management Office at E-mail: craig.ailles@rdec.redstone.army.mil