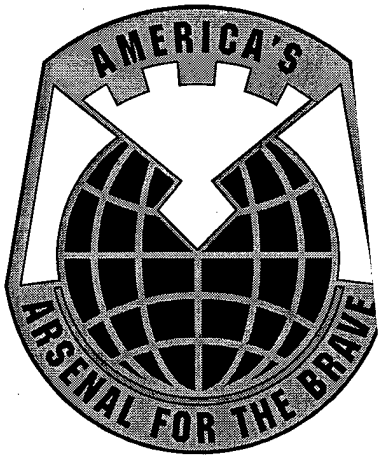
Army Implementation of Integrated Product & Process Management (IPPM) In Small Systems

SUCCESSFUL MANAGEMENT PRACTICES

February 1999

Prepared by the U.S. Army Materiel Systems Analysis Activity for the U.S. Army Materiel Command Integrated Product and Process Management Working Group



PREFACE

The purpose of this report is to document the successful management practices developed by the U.S. Army Program, Project, and Product Managers in implementing the Integrated Product and Process Management (IPPM) concept for primarily small systems. The information was gathered from surveys and interviews with PMs from 24 Army systems in various phases of the acquisition process.

The intent of this report is to furnish the information accumulated during the survey and provide examples of successful management practices and/or benefits resulting from implementing the IPPM concept.

ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

This study documents the successful Integrated Product and Project Management (IPPM) practices developed and implemented by U.S. Army Program, Project, and Product Managers of small, primarily ACAT III and IV systems. The U.S. Army Materiel Command (AMC) IPPM Working Group initiated the study. The Production Engineering Team (PET) of the Acquisition and Technology Support Division of the Army Materiel Systems Analysis Activity (AMSAA) performed it.

This study is similar to a 1997 study that focused on large, primarily ACAT I and II systems. The 1997 study was also done for the U.S. AMC IPPM WG but was performed by the U.S. Army Industrial Engineering Activity with assistance from National Systems Management, an engineering services contractor. This new study complements the 1997 effort on large systems since small systems were thought to have different needs, resources, and a smaller network available to manage those needs.

In this follow-on effort, AMSAA distributed an updated questionnaire. The responses consisted of information about using Integrated Product Teams (IPTs), the length of IPT experience, and the use and value of AMC Pamphlet 70-27, Guidance for Integrated Product and Process Management. Fifty-five PMs responded. Comparison of this information with that from the 1997 study showed that small systems tend to use the pamphlet less than large systems (48 percent versus 62 percent); that when small system managers are aware of the pamphlet, they find it as valuable as the PMs of large systems (61 percent versus 60 percent); and that there are no real dissimilarities in teaming rates and experience levels between large and small programs.

The study's emphasis, however, was on finding and documenting the successful practices used by small system managers. The questionnaire asked the PMs to checkmark the specific areas of IPPM/IPT activities that contributed to improving overall performance. Based on the returns and subsequent PM response and availability, the study team conducted interviews with 24 PMs resulting in 60 interview reports on specific topics. The reports (Appendix B) were then grouped into the functional areas identified in the survey questionnaire. Three of the areas with the most reports are Decision Making, Government/Contractor Interaction/Teaming, and How and When to Establish IPT. The analysis of functional areas begins under INTERVIEW RESULTS.

A comparison of the two studies shows some notable idiosyncrasies: small programs that are an aggregation of still smaller systems can use the opportunity to standardize certain aspects of IPPM/IPTs (charters, conflict resolution systems, etc.) to assist their subordinate item managers; small program IPTs tend to have a unique vertical/horizontal organizational structure; and small programs have difficulties in receiving training as a team, especially off-site when the core and matrix members serve on several programs. The severity of this problem has been declining as team members receive training on other earlier and parallel programs.

The main benefits of this study lie in the 60 interview reports and their analysis. Through this study, the reports on IPPM/IPT successful practices (40), problem areas (3), and general information (17) are available to PMO and contractor personnel. Further depth may be gained

by contacting the POCs listed on each report. An indirect benefit of the study is increased awareness of the guidance contained in the Defense Acquisition Deskbook.

IPPM and teaming have been Army policy for several years, and there is no need for an attempt to retroactively justify that decision by collecting and pointing to the benefits realized from this proven management tool. Nevertheless, the study includes an area analysis called PROGRAM COST that covers four interview reports related to impressive cost and time savings.

The study confirmed that the Army has been successful in implementing the IPPM/IPT concepts on small as well as large systems. Certain conclusions of the 1997 study on large systems are reproduced for easy accessibility in the CONCLUSIONS part of this study.

INTRODUCTION

In response to a changing defense environment, Dr. William Perry, then Secretary of Defense, directed the Department to apply the Integrated Product and Process Development (IPPD) concept of using Integrated Product Teams (IPTs) throughout the acquisition process. In his 10 May 1995 memorandum, "Use of Integrated Product and Process Development and Integrated Product Teams in Department of Defense (DOD) Acquisition," Dr. Perry emphasized the importance of IPTs as a mechanism that would allow the defense community to provide for a more efficient acquisition and management approach to weapon system development and fielding. As a management process, an IPT incorporates all necessary discipline and functions to integrate all activities from product concept through production and field support. The multi-functional team works to simultaneously optimize the product and its manufacturing and sustainment processes to meet cost and performance objectives. Day to day sequential decision making is replaced with a concurrent management team approach that uses the functional expertise of the team members.

In 1995, under the auspices of the U.S. Army Materiel Command (AMC) Integrated Product and Process Management (IPPM) Working Group (WG), the U.S. Army Industrial Engineering Activity (IEA) investigated the Army's IPPM activities. IEA surveyed eight development programs that incorporated an IPPM approach or segments of that approach in managing their programs. IEA conducted a series of telephone interviews with functional organizations, project offices, and contractors to examine the character of IPPM relationships between the Army and industry. IEA documented the study results in "Army Efforts to Implement Integrated Product and Process Management (IPPM)," June 1995.

The study showed the barriers to the team concept, team location, sharing of proprietary information, and dispute settlement were not insurmountable. Training, the establishment of ground rules up-front, and management support played an important role in overcoming all barriers.

As a follow-on to the 1995 study, the AMC IPPM WG initiated a project to document the successful management practices used by the project managers (PMs) in implementing IPPM and IPTs. The U.S. Army Industrial Engineering Activity (merged with the Army Materiel Systems Analysis Activity in 1998) prepared and distributed a questionnaire to 40 Army PMs who managed Army Acquisition Category (ACAT) I and II systems. The questionnaire addressed IPPM/IPT experience levels, the usefulness of the AMC Pamphlet 70-27, "Guidance for Integrated Product and Process Management," in establishing and managing IPPM/IPTs, and the specific areas where IPPM/IPT activities had contributed to improving overall program performance.

IEA published the results of the study in an April 1997 report entitled "Army Implementation of IPPM Successful Management Practices." The study showed that 94 percent of those responding had established IPTs, 63 percent of the IPTs had over 12 months of experience, and 62 percent of

the PMs indicated that they used the AMC Pamphlet 70-27. Of these PMs, 60 percent found the pamphlet to be valuable in establishing their IPTs. The areas where the IPT had contributed the most to improving the overall program performance were decision making, government/contractor interaction, and program cost and schedule.

In 1998, as a follow-on to the 1995 and 1997 studies, the AMC IPPM WG initiated this subject study to focus on the successful management practices used by PMs of **small systems** in implementing IPPM and IPTs. In comparison with ACAT I and II systems, the small, primarily ACAT III and IV systems were thought to have different needs, resources, and a smaller network available to manage those needs. The Production Engineering Team (PET) of the Acquisition and Technology Division of the Army Materiel Systems Analysis Activity (AMSAA) undertook the ensuing study. To compare the baselines for large (already established in the 1997 study) and small systems, this new study used a questionnaire similar to the earlier one. AMSAA sent it to 44 PMs of predominantly ACAT III and IV programs which had not been previously canvassed. The questionnaire addressed IPPM/IPT experience levels, the usefulness of the AMC Pamphlet 70-27, "Guidance for IPPM," in establishing and managing IPPM/IPTs, and specific areas where IPPM/IPT activities contributed to improving overall performance. This study emphasized these specific areas of IPPM/IPT activities, and interviews were conducted to document them. Appendix B documents the interviews while the Interview Results section of this study analyzes them. Information obtained concerning IPPM/IPT experience levels and the usefulness of AMCP 70-27 is analyzed below.

SURVEY QUESTIONNAIRE RESULTS

AMSAA received responses from 33 of the 44 PMs, but the number of questionnaires returned was 55 since several project managers had their subordinate program or product managers respond individually to the questionnaire. The results were 98 percent of those responding claimed to have had established IPTs; 94 percent of the IPTs had over six months of experience; and 68 percent of the IPTs had over 12 months of experience.

To the question "Does your staff use AMCP 70-27, Yes, and if No, why not?" 26 PMs (48 percent of the total) answered "Yes." The predominant explanation for not using the pamphlet was that they were unaware of its existence, 12 hits. Other reasons were limited staff/funds and managing several programs, four hits; wrong timing (their IPTs predated the pamphlet or the program is too indefinite and not yet ready for IPTs), four hits; and the nature of the pamphlet (it is only guidance or it is such a high level document that it would need to be implemented at a level closer to the PMO), three hits.

Forty-six PMs responded to the question "How valuable has the pamphlet been to your staff?" The response was that none of the PMs felt that the pamphlet was highly valuable; 28 (61 percent) felt that it was of a Medium, Low, or Limited value; and 19 (39 percent of the total) marked Not Applicable. As an explanation for the Limited or Not Applicable categories, the PMs pointed to the previous paragraph in the questionnaire described above. (It should be noted here that discussions with the PMs indicate that in many cases, the PMs are receiving their IPPM knowledge via other mechanisms such as the AMC Roadshows and classes.)

SYSTEMS INTERVIEWED AND INTERVIEW APPROACH

AMSAA attempted to contact and arrange interviews with all PMs who responded to the survey. The study team documented interviews with 24 PMs. For the remaining 31 PMs, the team was unable to arrange an interview in a timely manner.

The 24 PMs interviewed are listed in Table 1. The programs represented were predominantly ACAT III and IV programs. The maturity of the programs ranged from the Advanced Technology Demonstration (ATD) phase (**FSCS** and **VGT**) to the production/deployment stage (**2.75 Inch Rocket Motor, M113 FOV**, and **WAM PIP**) with most programs falling into the production stage (ten PMOs) and, next, into the PDRR/EMD (five PMOs) stage. There were also three PMOs (**NBC, SSS,** and **Targets**) that managed multiple products in a variety of their individual life cycles.

Five AMSAA engineers conducted the interviews. In most cases, the engineer contacted the person who filled out the questionnaire, requested an interview, and agreed to a specific date and time to conduct the interview. In some cases, the engineer faxed a copy of a memory jogger to the PMO contact. (The memory jogger contained words and acronyms for each application area of the survey questionnaire to prompt and assist the interview process.) In all cases, the PMO reviewed and approved the documentation prepared by the interviewer.

Of the 24 PMOs contacted, the team interviewed all but eight telephonically. Personal interviews were conducted at two locations, Picatinny, NJ (seven PMOs) and Rock Island, IL (one PMO).

TABLE I

SYSTEMS INTERVIEWED

SYSTEM	ACAT STATUS	ACQUISITION PHASE
2.75-Inch Rocket Motor	II	III (PROD-DEPL)
AN/GSC-52 Modernization	III	III (PROD)
Deployable Universal Combat Earthmover (DEUCE)	III	III (PROD)
FSCS	N/A	-- (ATD)
Global Positioning System (GPS)	III	I/II (PDRR/EMD)
HOKUM-X	IV	II (EMD)
Integrated Family of Test Equipment (IFTE)	III	III (PROD)
Interim Vehicle Mounted Mine Detection (IVMMD)	III	III (PROD)
Land Warrior (LW)	II	I/II (PDRR/EMD)
M113 FOV	III	III (PROD-DEPL)
M56 Large Area Smoke System	III	III (PROD)
Modernized Demolition Initiators (MDI)	IV	III (PROD)
Nuclear, Biological, Chemical (NBC)	III	VARIOUS
Paladin	II	III (PROD-DEPL)
SHORAD	IV	II (EMD)
Soldier Support Systems (SSS)	III	VARIOUS
Targets	IV	VARIOUS
Time Delay Firing Device (TDFD)	IV	III (PROD)
Universal Modem (UM)	III	III (PROD)
Vehicle Teleoperation (VT)	III	I/II (PDRR/EMD)
VGT	N/A	0 (CE&D)
Volcano	III	III (PROD)
Wide Area Munitions (WAM)	II	III (LRIP)
Wide Area Munitions (WAM) Product Improvement Plan (PIP)	II	II (EMD)

INTERVIEW RESULTS

The focus of this report is to document the Army's successes in implementing the IPPM concept in small, primarily ACAT III and IV programs. Survey reports are in Appendix B. Reports fall into one of three categories: Successful Practice (40), Information (17), or Problem Area (3). There may be more than one survey report from a particular PMO since the team attempted to document each particular successful practice separately so that it would stand out and facilitate analysis. The preponderance of successful practices reports (67 percent) is due to the fact that the identification of them is the focus of this study. Information reports are generally about practices that the PMO learned to use but does not claim to have originated. Reports marked Problem Area call attention to vital ingredients of IPPM that can jeopardize the success of the system. The following analyses cover those application areas that contain four or more survey reports (application areas are listed in paragraph 5 of the survey form in Appendix A). The areas are as follows:

Decision Making
User Involvement
Product Supportability
Government/Contractor Interaction/Teaming
Program Cost
How and When to Establish IPT
Organizational Level and Diversity
Organizational and Matrix Support
Miscellaneous

DECISION MAKING

The memory jogger's words for this application area include consensus, majority, hierarchical, and quorum. The 10 summaries received for this area cover decision making, decision reviews by correspondence, streamlined approvals, empowerment, planning of meetings, test and logistics planning, Foreign Comparative Test Program, and using facilitators.

The **NBC** IPTs have Team Operating Manuals (TOMs) that describe four types of decision-making situations and the procedures to handle them. The four types of decision situations are those that need to be done by the team leader, those that have a short suspense, those that have low risk/impact, and those that have high risk/impact. For this last category, an analytical hierarchy procedure is used. This procedure lays out alternatives and criteria by which alternatives will be judged. Here, the IPT weights the criteria based on their criticality and scores each alternative against the criteria. The IPT then tries to reach a consensus on each score or, failing that, the team leader steps in to resolve the issue. In lieu of the entire team making a decision, a smaller decision team can be organized to work the issue. This team will use one of the above procedures with input from the larger team as necessary. The entire team then supports the final decision as previously agreed to in the team operating code. (The TOM also has a good definition of consensus.)

The **IFTE** IPT's approach to urgent Engineering Change Proposal (ECP) changes from the field is to make decisions on the spot when resource requirements are below $25,000. Another way this IPT streamlines the acquisition process is to handle, by itself, decisions involving the modification of existing equipment. They also handle milestone decision reviews in a simplified manner by providing documents to each Overarching Integrated Product Team (OIPT) member, resolving any problems by telephone and other kinds of correspondence, and calling meetings as a last resort.

In his presentation to the Industrial College of the Armed Forces on 27 January 1995, Dr. Kaminsky stated that the two most important characteristics of an IPT are empowerment and cooperation. Empowerment was the most significant barrier to be overcome by the PMs in implementing the IPPM concept. The **WAM** PMO found that team training and documentation are the keys to the clear definition and support of empowerment by the management hierarchy.

Through proper meeting planning, the **VT** PMO found a satisfactory solution to the problem of an excessive number of meetings and meeting lengths. Distributing agendas 2 days before the planned meeting alerted IPT members of the meeting and the agenda items and allowed the revision and resending of the agenda. The PMO also found that including logistics and test representatives in the IPT early in the life cycle enabled realistic financing and scheduling.

The **IVMMD** program realized an estimated $500,000 savings from the decision of the test community and the user to accept and leverage certain elements in earlier test results in a Foreign Comparative Test Program.

The **PALADIN** PMO found that decision making in ad-hoc type IPTs or in the early phases of Working Integrated Product Teams (WIPTs) was greatly enhanced by using independent facilitators. The facilitator prepared the ground by defining the problem and getting a sense of the major issues to be resolved. At an off-site, he used brainstorming techniques to focus on potential solutions, action item development, and meeting scheduling. In the case of ad-hoc type IPTs, team meetings continued until the team came to closure on a problem solution.

USER INVOLVEMENT

The memory jogger for this application area includes the prompters verbal/written/periodic surveys, improvement/decline, and levels of users. The five summaries received for this area cover various conferences and requirements updates.

Due to the widespread use of the rocket and the large user community, the **2.75.Inch Rocket System** PMO had to devise a system to insure comprehensive user involvement. The PM appointed a Deputy PM (DPM) as the central focal point for user input. The DPM promptly organized two user conferences. Prior to the conferences, the DPM asked the users to provide

agenda items to insure their needs, and issues were addressed. During the conference, the users identified and prioritized the most needed system enhancements. The WIPT then used this input to do cost performance trade-offs on the various enhancements. They also updated the ORD based on user input. Without this information, developers would have wasted efforts on improvements that were not of significant value to the users.

The **IFTE** is also widely used. The IFTE PMO sets up an annual user conference to discuss current and anticipated equipment problems, future soldier needs, and contractor proposals.

In the **IVMMD** IPT, the user was the Combat Engineer Community. Their input, as well as input from the training community and the TRADOC Systems Manager, allowed the ORD to be approved very rapidly. One of the primary users of the IVMMD Fielding Plan, the training community, provided input to the Fielding Plan.

PRODUCT SUPPORTABILITY

The memory jogger for this area included the words and acronyms DT/OT, fielding, maintenance, calibration, MTBF, and POF. The five summaries turned in for this area cover the topics of total life cycle management, pre-planned product improvement (P3I), storage, training, and web site support.

In response to OSD and DA guidance, PMs now have total life cycle management responsibilities. The PM **NBC** responded to this development by appointing a life cycle team leader (LCTL) within each system management team. The summary enumerates the responsibilities of the LCTL for protective masks, one of seven systems within the PMO.

The **IVMMD** PMO lists two supportability-related accomplishments of the IPT approach. They are in the areas of design for P3I and timesaving between MDI and production initiation. Other accomplishments include the design and planning of electronics storage requirements and procedures.

The **VOLCANO** PMO stresses the importance of off-site training for the whole team and explains the difficulty of accomplishing it for ACAT III and IV programs.

In view of the many uses by various organizations of the integrated family of test equipment, the set-up and maintenance of the **IFTE** web site is a particularly successful practice.

GOVERNMENT/CONTRACTOR INTERACTION/TEAMING

The memory jogger for this area included the words and acronyms WIPT, DCM, observer/active, and pre/post award. The 11 summaries turned in for the area covered various aspects of

partnering, contractor participation in design, location of IPT members and meetings, frequency of meetings, openness of communications, and IPT structure.

The **AN/GSC-52 MOD** program has a Partnering Monitoring Plan to evaluate teaming problems and to identify remedies. The team uses a Partnership Assessment Form to rate their teaming efforts. These self-assessments are standing agenda items at all quarterly reviews. The **LAND WARRIOR** partnering program uses several partnering tools that provide additional structure to the IPT methodology. Partnering tools address the following processes: evaluation, issue resolution, problem solving, and follow-up/monitoring. The **UNIVERSAL MODEM (UM)** program has established contractor and government counterpart IPTs that meet every two months. Under this partnering agreement, all aspects of the program are reviewed and issues are resolved.

During the **VOLCANO** design phase, the contractors joined the government and user community in developing significant design parameters. The teaming approach continued through the design reviews and the design and execution of extensive operational testing. In the **PALADIN** program, a teaming approach facilitated the design definition of replacement components. Contractor participation, however, had to conform to an appropriate acquisition strategy so as to preclude disqualification or the misuse of contractor's ideas.

There is a wide divergence of approaches concerning the location of contractor and government team members and the frequency of meetings. As noted previously, the two counterpart teams of the **UM** program meet bi-monthly. In the **COYOTE** program, team members are located at numerous government and contractor locations and meet with the PMO at quarterly management review meetings. Government and contractor IPT members in the **SHORAD** program are located in the same city and meet weekly. In the **IFTE** program, the contractor members are collocated with government team members thereby dramatically improving day to day operations through face to face coordination.

The importance of open communications and integrity are the subjects of two information summaries. The **WAM** program's IPTs worked very well in the EMD, LRIP, and PIP phases since the issues were openly defined. The IPTs worked very well for proposal development and evaluation. Effective chartering and team training fostered openness and trust. The **HOKUM** PMO found that contractor integrity is absolutely essential to the successful integration of contractors in the IPT.

Successful IPT organizational structure is the subject of the write up from the **WAM PIP** PMO. IPT sub- teams are co-chaired by technical representatives from the government and the prime contractor. A steering committee composed of key IPT representatives acts as a liaison to the PMO.

PROGRAM COST

The four summaries included in this application area document both cost and time savings.

The **WAM PIP** applied IPPM and IPT concepts such as concurrency, empowerment, partnering, etc., through an Acquisition Streamlining Team to establish and manage contract documents for both the WAM Limited Rate Production Program and the WAM Product Improvement Program. The team was composed of contractor and government members. They worked to reach consensus on technical and programmatic issues and jointly developed the request for proposal, proposal, and post-award contract management procedures. From initiation of requirements until contract award, this IPT approach saved 293 days over the traditional sequential method. The Ammunition Research Development and Engineering Center estimated the government's savings to be $3,200K while the contractor estimated his savings to be $400K. The **MDI** program also applied IPPM and IPT concepts to the preparation and staffing of procurement request documents with an estimated time savings of 25 percent as compared with the conventional approach that had been used in the past.

The **Volcano** program also believed that they achieved savings in the initial phases of the program through the application of IPT methodology. The PMO encountered difficulty in quantifying the time and cost savings. They achieved savings by including a functional perspective earlier in the program with a consequent reduction in wasted effort.

The **WAM PIP** developed an IPT sub-team mechanism to control cost and improve financial real time planning through the modification of cost estimates and time to completion for work breakdown tasks as needed to accurately reflect redefined scope of work. The final product of each IPT sub-team is a summary sheet to support the Business Clearance Memorandum.

In addition to the IPPM successful practices and information summaries documented in the Program Cost application area, 10 other summaries in other IPPM application areas also referred to savings. Correspondence decision reviews, decision making at the IPPM level, IPT meeting planning, test and logistics planning, pre-planned product improvement, team membership for contractors, co-location of contractor personnel on IPT teams, multi-level teaming, virtual IPT meetings, and test scheduling all contributed to savings in time and cost.

HOW AND WHEN TO ESTABLISH IPT

The memory jogger's words and acronyms for this area include MOU, contract, and training timing. The 11 summaries received for this area appear below in the order of activities related to IPT formation and operation.

The **FSCS** PMO's RFP calls for proposals that incorporate IPPD during the earliest, the ATD phase, of this international development effort. The RFP calls for an IPPD Management Plan and

describes what should be included therein. The plan covers team composition, supporting product teams, plans to train IPTs, integration and communication links, etc.

For small programs, team formation usually gets the go-ahead when it looks like there will be a program. In the **VOLCANO** program, the technical leader starts the team formation and charter development. When full and open competition is the strategy, contractors do not participate in the IPT until contract award. In the **Land Warrior** program, the kick-off meeting attended to team training and charter development. The prime contractor took the lead in conducting and organizing the team training. This PMO's information summaries also mention the importance of integration IPTs for complex systems and the importance of a conflict resolution methodology.

When a PM has many program and system IPTs, he/she can institutionalize charters for smaller programs to near uniformity. This is the case with the **NBC** PMO charter for each IPT, the Team Operating Manual. It has an excellent, broad write-up on weekly and ad hoc meetings of the team. A separate section of the manual addresses the responsibilities of the meeting's leader, facilitator, recorder, and meeting members. The **VOLCANO** information summary points out that charters for small programs can be used as a vehicle to reiterate government/industry training and thereby initiate interaction and communication.

Another write-up from the **NBC** PMO addresses partnering charters. It includes performance objectives, communication objectives, and a conflict resolution system complete with clear administrative details. The **AN/GSC-52 MOD Program** PMO uses the term "issue resolution ladder" and gives a number of good reasons supporting this device. Another summary from this PMO quotes the goals and objectives from a partnering agreement. It has about nine entries under each of the following categories: Deliver a Quality Product, Ahead of Schedule, Maintain a Professional Relationship, and Reasonable Price.

The **VOLCANO** PMO established a special IPT to pursue acquisition streamlining by scrubbing mil specs and detailed data requirements from the original acquisition strategy and SOW.

ORGANIZATIONAL LEVEL AND DIVERSITY

The memory jogger's words for this area included verticality, sub-IPTs, ad hoc, Navy/Marines/NG, and geographical distance. The four summaries turned in for the area cover the topics of vertical, horizontal and multi-level teaming, and charters.

The informational summaries from **UM** and **GPS** show a vertical, three-level structure, the rungs being the OIPT, integrating IPT, and the WIPT. The three-tier structure seems to be appropriate for these ACAT III programs (more levels would be typical for ACAT II and I programs). Membership in the integrating IPTs seems to include the most influential members from the OIPT and the key WIPTs. Horizontal structure is most apparent at the bottom level among the WIPTs.

The **VGT** PMO's core team concept appears to be related to the integrating IPT concept. It allows the individual teams' leaders to report on their teams without requiring team members' presence.

The **NBC** PMO charters are not IPT charters in the strict sense. They are more like assignment and tasking charters to the Product, System, or Project Manager to perform a certain mission. As appropriate, teaming is mentioned as a vehicle to carry out that mission. IPTs within the NBC PMO have their own Team Operating Manuals and seem to serve as IPT charters. Two areas of this study, How and When to Establish IPT and Organizational and Matrix Support, contain excerpts from such a manual.

ORGANIZATONAL AND MATRIX SUPPORT

The memory jogger's words for this application area include endorsements, literature distribution/publicity, planning, and coordination. The six summaries received for this area cover team composition, resource utilization, performance evaluation, and excerpts from a team manual/charter about expectations from team members, team leader, and team director.

The **MDI** IPT composition is probably typical for PMs that have only two or three full time associates and have just entered the production phase of the life cycle. The two full time engineers get support from representatives of seven functional areas who charge 10 to 20 percent of their time to the MDI program.

As the Army continues to downsize, fewer and fewer qualified people work its development programs. The **WAM** PMO representative strongly believes the IPPM/IPT approach will allow him to utilize the remaining workforce as effectively as possible.

An **NBC Defense Systems** PMO developed system bases the performance of its team members on their team's performance. The system includes individual/team objectives, performance goals, and accomplishments. Individual team members, team leaders, the DPM, and the PM do the ratings. The PM is the senior rater, the DPM rates the team leader, and the team leaders (seven system teams and three product teams) are the raters for the team members.

One of the seven **NBC Defense Systems** IPTs is the MICAD System Management Team. The team has a Team Operating Manual (TOM) that lays down the expectations from the team members, team leader, and Director/PM. The inclusion of these expectations in the MICAD TOM is an indication of management emphasis on IPPM/IPF and its institutionalization. Putting team and management expectations into words helps to insure a clear understanding of what can be counted on and increases the likelihood that expectations are met.

MISCELLANEOUS

This last section is composed of application areas that received few entries/summaries from the interviewers. The four entries included here are from four application areas: Program Schedule, Tools/Resources, Development Reviews, and "Other." The summaries fall into the Information category (three each) and the Problem Area category.

The **SSS** PMO has 13 core personnel and 56 product lines. The advantages of the IPT approach are most apparent in test scheduling; a nearly final draft schedule can be roughed out in one sitting of the IPT. The **M113** PMO uses a video link for quarterly IPRs with the contractor, eliminating TDY for 6-7 persons. Conference calls continue for weekly meetings. The **WAM PIP** has an OIPT and separate IPTs for test, design, and component systems. All design reviews organize around this IPT structure. The **TARGETS** PMO has not implemented IPPM/IPT on current programs. They believe that it would take additional human and funding resources to make the conversion. However, TARGETS is attempting to implement the best aspects of IPPM/IPT in new contracts.

COMPARISON OF IPPM/IPT IN LARGE AND SMALL SYSTEMS

Although the primary purpose of this study was to collect best practices, the survey form also contained questions about using IPTs, the length of IPT experience, and the use and value of AMC Pam 70-27. Table 2, below, compares the responses of the large system managers surveyed in 1997 with those of the small system managers surveyed in 1998. The data suggests three distinguishing characteristics:

1. Small systems tend to use the pamphlet less than large systems (48 percent versus 62 percent). We discuss the reasons for this divergence in more detail in the Conclusions section.

2. When small system managers are aware of the pamphlet, they find it as valuable as the PMs of large systems (61 percent versus 60 percent).

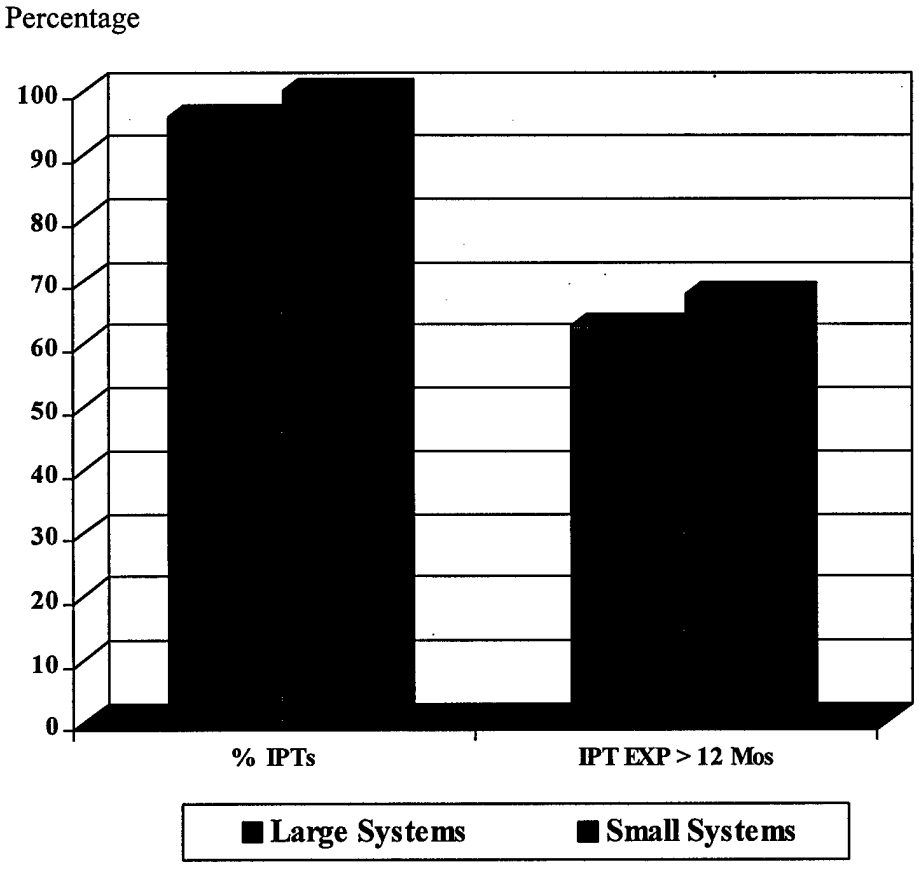
3. The bar chart illustrates the last two characteristics. It indicates a 4 percent point difference between large systems that use IPTs (94 percent) and small systems that use IPTs (98 percent). It also shows the five percent point variation in IPPM/IPT experience levels between the two groups. We conclude that there are no real dissimilarities in teaming rates and experience levels between large and small programs. The passage of time contributed the small change for the better. We conducted this study nearly two years after we completed the large system study, allowing more time for small teams to become familiar with acquisition reform initiatives.

Table 2

Comparison of Large and Small Systems

	ACAT I&II	ACAT III&IV
PMs Participating	40	55
PMs Using AMC PAM 70-27	62%	48%
Found PAM Valuable	60%	61%
PMs Using IPTs	94%	98%
IPPM/IPT Experience Over 12 Months	63%	68%

IPT Participation and Experience
Large Versus Small Systems



Based on the two studies, the following observations are made pertaining to large versus small systems:

- Opportunity to standardize. Some small system PMOs are an aggregation of still smaller systems that are assigned, one or two at a time, to responsible individuals in the office. PMs, in several cases, recognized an opportunity to help these individuals by institutionalizing and standardizing some aspects of IPPM/IPT such as IPT charters, team operating manuals, partnering charters, and conflict resolution systems. These PMs promoted more efficient operations because the standards could be used by the subsystem managers in their IPTs with little or no modification.

- Unique structure. In comparison with large systems, small systems are unique in their vertical/horizontal organizational structure. In the vertical sense, they seem to have three levels: the OIPT, the integrating IPT and the WIPT. This is in contrast to large systems that frequently have an intricate and labyrinthine IPT structure. In the horizontal sense, the aggregate type PMOs have more than their share of co-equal IPTs for their subsystems/products. Members of the TACOM, ATCOM and CECOM DSAs are also in a horizontal relationship under their respective DSA. In contrast, the large systems' structures are exceedingly difficult to stereotype.

- Multiple assignments. Small system PMOs tend to have more "part time" IPT members and more members assigned to multiple IPTs.

- Off-site training. IPPM literature holds that new IPT teams should receive training as a team, preferably off-site, to prevent interruptions. This practice is turning out to be very difficult for small systems where the core and matrix members work on several programs. An ameliorating aspect of this problem is that at this stage of the IPPM/IPT implementation, most team members have been exposed to some form of such training on another earlier assignment/program. Regardless of the difficulty, the people involved still felt that joint training was a key component of team cohesiveness.

CONCLUSIONS

This study confirmed that the Army has been successful in implementing the IPPM/IPT concepts in small as well as large systems. The successful management practices/techniques found during the survey are documented in Appendix B.

We observed that some PMs have such large user communities that they must make provisions to reach out to everyone. The **IFTE** PMO and others use the internet to provide testing facilities to their DOD and FMS customers. **CE/MHE-DEUCE** promulgated partnering charters that

enabled core persons to manage several items. Another special provision employed by **IFTE** and **2.75 Rocket Systems** were the user conferences for maintaining strong liaison with the Army, Navy, Air Force, National Guard, and Special Forces customers.

New developments unrelated to the ACAT level of the system emerged during the interviews. They are: the expanding use of the WWW as noted above, the appearance of Total Life Cycle Management (**NBC**), the maturing of partnerships with contractors (**LW, UM, CE/MHE,** etc), and the standardization of IPPM/IPT practices. These initiatives were still in their early stage of development when the previous study on large systems was conducted.

The study also found some novel IPPM/IPT applications not encountered in the earlier study. One was the application of IPPM/IPT to the Total Army Performance Evaluation System (TAPES) by the **NBC Defense Systems**. It consists of a performance appraisal system which bases the performance of team members on their team's performance. Another novel application was the Conflict Resolution System used by the **CE/MHE** and the Issue Resolution Ladder used by the **AN/GSC-52.** Both of these interview summaries contain interesting details with wide applicability.

Table 2 shows an apparent significantly lower use of the pamphlet by small systems when compared to large systems (48 percent versus 62 percent). Response to the questionnaire shows that not being aware of the pamphlet was the main reason (41 percent) followed by limited resources (14 percent) for not using it. However, another factor can partially account for this decline. Early in 1998, the pamphlet was topically incorporated into the Defense Acquisition Deskbook (DAD) without crediting the pamphlet as the source. At around the same time, in line with efforts to use electronic media rather than hardcopy, pamphlet printing ceased. All these developments contributed to the perceived unavailability of the pamphlet. One positive aspect of this study is that those who did not know about the pamphlet now do know about its availability in the DAD, and the others' knowledge of the pamphlet is refreshed.

Portions of the Conclusions from the 1997 study on large systems were confirmed by this study. For easy accessibility, they are reproduced below:

"A formal document whether a charter, partnering agreement, or MOU is necessary to specify the IPT ground rules, meeting guidelines, and roles and responsibilities of its members."

"IPT goals and objectives must be established and tracked."

"Training to function as a team is paramount. Many of the early conflicts and struggles could have been avoided/reduced with training in decision making processes and resolving conflicts."

"Communication is the key to an effective team. There is a need to constantly improve team communication/integration. An integrated network of communications/software tools is mandatory."

"The team should consist of members from all those involved with the system from the contractor to the user. Team members must clearly understand their roles and responsibilities and participate in the decisions."

"Barriers between the functional disciplines must be overcome. Team members must be compatible if a cooperative atmosphere is to exist."

There appears to be no significant differences in the application of IPPM and IPTs between large and small systems. Two differences that were noted are: more part-time members who are also members of other teams, and a difficulty in getting teams to take training together as a unit. Both of these situations require special emphasis by team leaders to overcome but neither is an insurmountable obstacle to implementing IPPM or IPTs.

APPENDIX A

QUESTIONNAIRE

SURVEY
INTEGRATED PRODUCT AND PROCESS MANAGEMENT
BEST PRACTICES FOR SMALL PROGRAMS

1. System name:

2. POC name, phone number and e-mail address:

3. Acquisition phase and date of last Milestone Decision Review:

4. Check months of IPPM/IPT experience: __0 __<5 __6-12 __13-24 __>24

5. Check areas where your IPPM/IPT activities have contributed to improving overall program performance and for which best practices can be documented:

____ Decision making
____ Milestone Decision Reviews
____ Development reviews
____ User involvement
____ Product producibility
____ Product supportability
____ Government/contractor interaction/teaming
____ Program cost
____ Program schedule
____ How and when to establish IPT (MOU, contract, etc)
____ Organizational level and diversity
____ Tools/resources
____ Staff/training
____ Organizational and matrix support
____ Legal issues
____ Others (please list)

6. Do you have any best practices already documented? (If yes, please describe)

7. AMC-P 70-27, Guidance for Integrated Product and Process Management:

   a. Does your staff use it? Yes ____. If no, why not?

   b. How valuable has AMC-P 70-27 been to your staff?
   High ____ Medium ____ Low ____ Limited _____ Not Applicable ____

   c. Volumes 1 and 2 of AMC-P are now incorporated into the DOD Acquisition Deskbook (DAD). Please check here _____ if the information in "a" and "b" above is based on DAD as the source.

APPENDIX B

SUCCESSFUL MANAGEMENT PRACTICES INTERVIEW SUMMARIES

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)
PRODUCT MANAGEMENT OFFICE

7/12/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Correspondence Decision Reviews

DISCUSSION: The Program Manager, Test, Measurement, and Diagnostic Equipment (PM-TMDE), has conducted milestone decision reviews through a correspondence process that saves time, travel expenses, and labor costs. The process consists of a cover letter and documentation that is prepared by the system IPT. The letter is signed by the Product Manager and sent with the milestone documentation package to the overarching IPT members. The overarching IPT members include the test authority (Operation and Evaluation Command), the user (Training and Doctrine Command and the Combined Armed Support Command), and the Aviation and Missile Command (Legal Office, R&D Center, Acquisition Center, Safety Office, Integrated Materiel Management Center, and the Environmental Office). The process is managed by the system program analyst in the PM, TMDE office. Problems are resolved by telephone and correspondence and, if needed, by meetings. Once approval is received in writing from each of the review authorities and comments incorporated into the documentation, the final package is sent to the AMCOM Deputy for System Acquisition who is the Milestone Decision Authority for final approval. The approval is documented in the Acquisition Decision Memorandum.

PM POINT OF CONTACT: Robin Winkler **TELEPHONE:** DSN 897-2917
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE:** DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)
PRODUCT MANAGEMENT OFFICE

11/25/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Decision Making at the IPPM Level

DISCUSSION: Requests from the manufacturer or from the field units for urgent ECP changes that require resource expenditures below a $25,000 value can be made by the IPPM/IPT Team Leader. If the team leader feels that the team should approve the request, it is submitted to them for review and disposition.

This IPT process reduces the time involved in making needed improvements and reduces cost of support.

PM POINT OF CONTACT: Ms. Dawn Gratz **TELEPHONE:** DSN 645-6884
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE:** DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)
PRODUCT MANAGEMENT OFFICE

11/25/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Streamlined Acquisition Approvals

DISCUSSION: The IPPM/IPT has responsibility for acquisition approvals. This streamlines the acquisition process by reducing cost, assuring that all disciplines are involved in the process, and by shortening development time. This process has been applied to the modification of existing equipment rather than the development of totally new designs.

The IPPM/IPT is also responsible for development cost and scheduling.

PM POINT OF CONTACT: Dawn Gratz **TELEPHONE:** DSN 645-6884
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE:** DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTERIM VEHICLE MOUNTED MINE DETECTION (IVMMD)
PROJECT MANAGEMENT OFFICE

10/7/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: IPT and Foreign Comparative Test (FCT) Program

DISCUSSION:

- After a market survey determined that all NDI candidates came from overseas, an FCT program was initiated to conduct product testing.

- France had already tested the NDI system and had initiated minor system modifications. The Army test community and the user were part of the Integrated Product Team and were fully aware of previous tests. Both communities accepted many elements of these test results, resulting in test savings of an estimated $500,000.

- Joint developmental and operational testing was conducted at Aberdeen Proving Ground; contractor development tests (CDTs) were followed by user testing. User test results and French test reports were leveraged as part of the development test report and the Operational Evaluation Command Position.

PM POINT OF CONTACT: Brian M. Green **TELEPHONE:** 703-704-2474
AMSAA SURVEY TEAM MEMBER: Alan Peltz **TELEPHONE:** 309-782-7820

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS
PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: Decision-Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Decision-Making

DISCUSSION: All teams have Team Operating Manuals (TOMs). The Multipurpose Integrated Chemical Agent Detector (MICAD) TOM is a typical example of the processes used by PM NBC Defense Systems Teams. The MICAD TOM coverage of decision-making is as follows:

- To the maximum extent possible and when feasible, decisions that affect the entire team will be made by team consensus.

- If a decision is such that it needs to be made by the team leader, input to the decision will be obtained from the team.
  The team will then be informed of the decision.

- If the decision is of the short suspense type, input will be solicited as required and when possible. The team will be notified of the decision.

- For low risk, low impact decisions, roundtable discussions will be held to discuss the issues, alternatives, etc., and through facilitation, consensus will be reached.

- For high risk, high impact decisions, the analytical hierarchy procedure will be used. This process lays out alternatives and criteria by which alternatives will be judged. The criteria will be weighed based upon the criticality of those criteria. Each alternative will be scored against the criteria. Consensus will be reached on each score.

- If a consensus cannot be reached, the team leader will step in to resolve the issue.

- In lieu of a full team making a decision, a smaller decision team can be put together to work the issue. The team then will use one of the above methods with input from the rest of the team as necessary. The team will be notified of the decision and based on the MICAD code, the team will support the final decision.

- For specific functional areas, each person is empowered to make decisions within their area of responsibility. However, the person must first look at the impact to other areas before finalizing the decision. The entire team will then be notified of those decisions.

Note – the definition of consensus is as follows:

When the group reaches the point where every member of the group can say "Well, even though it may not be exactly what I want, at least I can live with the decision to support it," then the group has reached consensus. This does not mean that all of the group must completely agree, but rather that everyone is in fundamental agreement.

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

PALADIN
PROJECT MANAGEMENT OFFICE

9/24/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Use of Facilitator

DISCUSSION:

- Independent facilitators are used at the onset of a team and stay with the team for several initial meetings.
- A list of contributors is given to the facilitator who initiates a series of calls to describe a problem and to get a sense of the major issues to be resolved.
- An off-site is held where the facilitator summarizes the problem as he has come to understand it and what he has learned.
- Brainstorming techniques are employed to focus on potential solutions; vision and goal statements are developed; action items are developed and suspensed; and a series of meetings are scheduled.
- Team meetings continue until the team comes to closure on a problem solution. As the solution becomes accepted and implementation begins, the team focus is gradually transitioned to management and responsibility.

PM POINT OF CONTACT: E. Carroll Gagnon **TELEPHONE:** 973-724-2240
AMSAA SURVEY TEAM MEMBER: Alan Peltz **TELEPHONE:** 309-782-7820

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VEHICLE TELEOPERATION (VT) UNMANNED GROUND VEHICLES PROJECT MANAGEMENT OFFICE

9/10/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE:	**INFORMATION:**	**PROBLEM AREA:**
X		

DESCRIPTION: Excessive Number of Meetings and Meeting Length

DISCUSSION: There is a tendency with the IPT approach to conduct too many meetings and for the meetings to last too long. This has been resolved to a satisfactory extent in the VT program through proper meeting planning (e.g., agendas prepared well in advance of meetings). This problem area has also been ameliorated in time through team experience and team member discipline.

PM POINT OF CONTACT: Daniel Price **TELEPHONE:** DSN 645-7007
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE:** DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VEHICLE TELEOPERATION (VT) UNMANNED GROUND VEHICLES PROJECT MANAGEMENT OFFICE

9/10/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: IPT Meeting Planning

DISCUSSION: IPT meeting planning includes the preparation and distribution of meeting agendas 2 days before the planned meeting. This has resulted in better and more efficient meetings. Additional benefits of this best practice are that team members are reminded of the meeting, are alerted to agenda items, and can plan for the meeting. In addition, the meeting agenda can be added to or altered for business items by the members in sufficient time for the agenda to be revised and resent to the members.

PM POINT OF CONTACT: Daniel Price **TELEPHONE:** DSN 645-7007
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE:** DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VEHICLE TELEOPERATION (VT) UNMANNED GROUND VEHICLES PROJECT MANAGEMENT OFFICE

9/10/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Test and Logistics Planning

DISCUSSION: The VT IPT membership includes representatives from the logistics and test communities. The representation of these communities/disciplines on the team has enabled realistic planning for schedule and financing. In the past, logistics and test were addressed late in the design phases and, as a result, were not properly planned. This resulted in schedule and budget problems.

PM POINT OF CONTACT: Daniel Price **TELEPHONE:** DSN 645-7007
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE**: DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

WIDE AREA MINE (WAM)
PROJECT MANAGEMENT OFFICE

9/23/98

IPPM APPLICATION AREA: Decision Making

SUCCESSFUL PRACTICE: **INFORMATION:** **PROBLEM AREA:** X

DESCRIPTION: Empowerment of Team Members

DISCUSSION: Empowerment of team members is essential to the functioning of Integrated Product Teams. The user representative IPT member must be able to define what is needed and wanted and not be countermanded by his supervisor. The contractor representative must be able to make commitments in the financial areas that are supported. Team training and documentation define and support empowerment, but the reality is that further effort is needed to insure that empowerment is clearly defined and supported by the management hierarchy.

PM POINT OF CONTACT: Olin Frazier **TELEPHONE:** 973-724-7052
AMSAA SURVEY TEAM MEMBER: Alan Peltz **TELEPHONE:** 309-782-7820

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

2.75 INCH ROCKET SYSTEM
PROJECT MANAGEMENT OFFICE

10/29/98

IPPM APPLICATION AREA: User Involvement

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM:**

DESCRIPTION: Conferences and Ongoing Communications

DISCUSSION: The HYDRA-70 Rocket is a low-cost, free-flight, "fire and forget" ACAT II system that is deployed on helicopters and fixed-wing aircraft. It is the most widely used rocket in the world and is used by every branch of the U.S. Armed Services and several allied forces. It is popular because it can be adapted to meet specific mission requirements. Due to the widespread use of the rocket, the user community is quite large. As a result, it was not cost effective to expect the large user community to participate in the weekly FY99-03 acquisition IPT meetings. The Deputy PM was established as the central focal point for user input. He immediately organized two user conferences to insure comprehensive user involvement which included Army, Navy, Air Force, and Special Forces.

Twenty representatives from the user community attended the conferences held at the Indian Head Naval Surplus Weapons Center in Maryland and the Rock Island Arsenal. Attendees to the conferences included representatives from Hill Air Force Base, NAVAIR, Indian Head NSWC, Special Operating Forces and military personnel from Ft. Rucker that work with the combat development center. Prior to the conference, the users were asked to provide agenda items to insure their needs and issues were addressed. The twenty representatives had a frank and productive round table discussion to provide the Deputy PM with product and schedule requirements based on planned training. The Deputy PM continues throughout the IPT process to communicate with the users via frequent telephone conversations, travel to their sites and
e-mail.

The ongoing communication provides the linkage the PM needs to efficiently meet the user requirements and remain current on issues related to systems in the field. In addition, the participation of all the users secures buy-in from the various Service customers.

PM POINT OF CONTACT: Mr. Brian Passe **TELEPHONE**: 309-782-6816
AMSAA SURVEY TEAM MEMBER: Ms. Nan Ramsey **TELEPHONE**: 309-782-5632

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

2.75 INCH ROCKET SYSTEM
PROJECT MANAGEMENT OFFICE

10/29/98

IPPM APPLICATION AREA: User Involvement

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM:**

DESCRIPTION: Requirements Evolution

DISCUSSION: Prior to standing up the PM Office, the HYDRA-70 program was managed as a product team that focused on production and engineering. Once the new PM Office was in place, the PM formed an Integrated Product Team (IPT) to work on the Joint Service Improvement Plan (JSIP). He pulled in matrix support from the relevant design activities (ARDEC, AMCOM and Indian Head).

A working level integrated product team was established to expand and implement the JSIP. The Deputy PM called a conference at Ft. Rucker where the largest group of users, the aviators from the combat development center, were located. Design activity representatives also attended the conference, which was held to identify and prioritize the most needed system enhancements. The aviators at the conference were asked to prioritize needed enhancements. The team then used this input to do cost performance trade-offs on the various enhancements. Without this critical communication, developers would have wasted efforts on improvements that were not of significant value to the aviators.

The input from the conference also convinced the TRADOC community of the need to update the Operational Requirements Document (ORD). Updating the ORD will enable the PM to incorporate the new requirements into future procurement. Use of the teaming concept, involving all functional areas and the users, provided an approach to get the aviator what he really needed and avoided the pursuit of less desirable options.

PM POINT OF CONTACT: Mr Brian Passe **TELEPHONE**: 309-782-6816
AMSAA SURVEY TEAM MEMBER: Ms. Nan Ramsey **TELEPHONE**: 309-782-5632

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)
PRODUCT MANAGEMENT OFFICE

11/30/98

IPPM APPLICATION AREA: User Involvement

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: User Conference

DISCUSSION: The Product Office sponsors an annual User Conference for the purpose of soliciting input from the field on soldier's needs. Military attendees are predominantly sergeants. Other attendees are contractor representatives, the PM, DPM, and IPT members. Topics discussed are problems with current equipment, future soldier needs, anticipated problems, and contractor proposals. The PMO also uses the conference as an opportunity to distribute training materials and other pertinent information.

PM POINT OF CONTACT: LTC Oscar B. Valent **TELEPHONE:** DSN 645-6359
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE**: DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTERIM VEHICLE MOUNTED MINE DETECTION (IVMMD)
PROJECT MANAGEMENT OFFICE

10/7/98

IPPM APPLICATION AREA: User Involvement

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: User Involvement

DISCUSSION:

- Integrated Product Teams were created at the very onset of this program. The TRADOC Systems Manager and the Combat Engineer community were involved from the beginning. Because the materiel developer and the user worked together early on, the ORD was approved very rapidly.

- The Fielding Plan was developed with input from the user training community.

- The Engineering School was included on the acquisition IPT subteam and was empowered; decisions were reached quickly, and only 2 years elapsed from MDI until the initiation of production.

PM POINT OF CONTACT: Brian M. Green **TELEPHONE:** 703-704-2474
AMSAA SURVEY TEAM MEMBER: Alan Peltz **TELEPHONE:** 309-782-7820

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

PM-MCD TIME DELAY FIRING DEVICE (TDFD)
PROJECT MANAGEMENT OFFICE

9/25/98

IPPM APPLICATION AREA: User Involvement

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Upper Management Support

DISCUSSION:

- The Integrated Product Team fostered a close working relationship between government and contractor personnel. Solutions to production and producibility issues were developed with input from all concerned, with control of the TDP left with the contractor.

- Key to success of the Integrated Product Team is clear and committed support from contractor upper management as well as government management support.

- Mutual trust and openness among team members must develop and grow in order for significant technical progress to proceed.

- As TDFD approaches its fourth year of production, 23,000 have been produced and there have been no lot failures or waivers.

PM POINT OF CONTACT: Jerry H. Lyon **TELEPHONE:** 973-724-6094
AMSAA SURVEY TEAM MEMBER: Alan Peltz **TELEPHONE:** 309-782-7820

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)
PRODUCT MANAGEMENT OFFICE

11/25/98

IPPM APPLICATION AREA: Product Supportability

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: WEB Site Support

DISCUSSION: The IFTE PMO maintains a WEB site to support the Family of Test Equipment. It is an interactive system that provides directions for using test equipment and provides solutions to problems that have surfaced in the field.

PM POINT OF CONTACT: LTC Oscar B. Valent **TELEPHONE:** DSN 645-6359
AMSAA SURVEY TEAM MEMBER: Ferrel Anderson **TELEPHONE:** DSN 793-7801

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTERIM VEHICLE MOUNTED MINE DETECTION (IVMMD)
PROJECT MANAGEMENT OFFICE

10/7/98

IPPM APPLICATION AREA: Product Supportability

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Pre-Planned Product Improvement

DISCUSSION:

- The Joint Program Office for Unmanned Ground Vehicles was part of the Acquisition IPT and provided the support necessary to modify the IVMMD to allow for future teleoperation of the system.

- The IPT approach succeeded in the incorporation of an Army Standard Teleoperation System (STS) which had been successfully used with an M60 Tank Chassis, into the Meerkat lead detection vehicle.

- The significant contribution of the IPT approach in achieving desirable modifications was significant reduction in time. Total elapsed time from MDI to production initiation was 2 years.

PM POINT OF CONTACT: Brian M. Green **TELEPHONE:** 703-704-2474
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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTERIM VEHICLE MOUNTED MINE DETECTION (IVMMD)
PROJECT MANAGEMENT OFFICE

10/7/98

IPPM APPLICATION AREA: Product Supportability

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Storage Requirements and Procedures

DISCUSSION:

- Sierra Army Depot was part of the Logistics and Acquisition IPTs and hosted some of the Logistic IPT meetings.

- The IVMMD contractor Logistics Support Program was thoroughly coordinated via ILS and DCS LOG participation on the IPT. Representatives of Sierra Army Depot worked closely with the IPT to insure necessary electronics storage requirements were met, and that specialized storage containers were properly designed. They also coordinated site development at the storage point.

PM POINT OF CONTACT: Brian M. Green **TELEPHONE:** 703-704-2474
AMSAA SURVEY TEAM MEMBER: Alan Peltz **TELEPHONE:** 309-782-7820

IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS
PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: Product Supportability

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Total Life Cycle Management

DISCUSSION: In response to OSD and DA guidance, PMs now have total life cycle responsibilities. In conjunction with the Director RDEC and the Director IMMC, the PM NBC Defense Systems appointed a life cycle team leader within each system management team. An example is the Protective Masks life cycle team leader (PMLCTL).

The PMLCTL is responsible for coordinating the total life cycle for protective masks with a special focus on reducing total cost of ownership. Specifically, the PMLCTL coordinates the following:

- Science and technology efforts in the RDEC (core mask team)
- Technology transfer possibilities within the PM product lines (M40, M42, M45 masks and the next generation Joint Service General purpose masks)
- Technology transfer possibilities with the IMMC item manager

Other responsibilities of the PMLCTL:

- Identify S&T objectives based on production and field experience
- Identify S&T objectives based on users' future operational capabilities requirements
- Based on input from the S&T team, identify technology transfer opportunities, Modernization Through Spares opportunities, and technology development opportunities
- Based on input from the IMMC, identify O&S cost drivers (for possible modernization requirements) and identify those high failure rate items which require analysis and engineering support from RDEC or product teams

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VOLCANO
PROJECT MANAGEMENT OFFICE

9/25/98

IPPM APPLICATION AREA: Product Supportability

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Off-Site Training

DISCUSSION: Many people associated with ACAT III or IV programs work on several programs. Training off-sites are therefore difficult to implement for the entire team. The Volcano team leader attempted team training off-site and was only able to get about half the team to attend. It is important, nonetheless, to pursue team training and to stress participation in all possible team meetings. When these considerations are not stressed, the IPT starts to become fragmented. Members begin to feel they are being left out of the loop and start to take sides rather than work toward a consensus solution.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

AN/GSC-52 MODERNIZATION PROGRAM
PROJECT MANAGEMENT OFFICE

9/23/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM:**

DESCRIPTION: Partnership Monitoring Plan

DISCUSSION: Harris Corporation and the Government are partnering on the Integrated Product Team (IPT) for the modernization of the AN/GSC-52 Satellite Terminal. The team/partnership has established a Partnership Monitoring Plan with representatives from Harris and the Government serving as Partnership Champions. They are responsible for taking the 'pulse' of the team to insure partnering/teaming problems are identified so they can be remedied. To do this, the team has established a Partnership Assessment Form that the team uses to rate their teaming efforts. Any deficiencies must be described. Discussion of the health and well-being of the partnership is a regular agenda item at quarterly reviews during which time the results of the survey are reviewed so the team can address any partnering issues.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

M56 LARGE AREA SMOKE SYSTEM (COYOTE)
PRODUCT MANAGER OFFICE

9/9/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Team Membership for Contractor

DISCUSSION: The Coyote IPT consists of the 11 PMO staff members and the leaders of 10 to 15 working groups. Team members are located at numerous government and contractor locations. The IPT, including the contractor member, reports directly to the PM at quarterly management review meetings. The contractor is also directly involved in the operation of the Configuration Control Working Group with which it meets on a weekly basis.

The team members, including the contractor members, were all trained in IPPM and IPT techniques. Training was provided by thorough commercial and Command training courses.

The advantage of including the contractor on the IPT is improved communication with consequent reduction in time and cost to the program.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

HOKUM-X
INSTRUMENTATION, TARGETS AND THREAT SIMULATORS (ITTS)
PROJECT MANAGEMENT OFFICE

9/9/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Contractor Integrity

DISCUSSION: The HOKUM PMO has included contractors as IPT members with mixed success. Contractors who performed with integrity contributed to successful IPT performance. Dishonest contractors who misrepresented their progress, performance of the design, or plans degraded IPT performance. Their conclusion is that contractor integrity is absolutely essential to successful IPT performance.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

INTEGRATED FAMILY OF TEST EQUIPMENT (IFTE)
PRODUCT MANAGEMENT OFFICE

11/30/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Co-Location of Contractor Representative with IPT

DISCUSSION: Contractor members, in addition to attending team meetings, are also co-located with the government team members. This dramatically improves the day-to-day operation of the team by providing real time coordination, eliminating communication with remote contractor sites.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

LAND WARRIOR
PROJECT MANAGEMENT OFFICE

10/7/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Partnering Tools

DISCUSSION: A total Land Warrior Team partnering agreement was executed to provide additional structure to the IPT methodology initiated at the beginning of the EMD program phase. Concise mission and goal statements were developed and partnering tools defined for the following:

- Vision/mission goals
- Evaluation process
- Issue resolution process
- Problem solving
- Follow-up/monitoring process

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

PALADIN
PROJECT MANAGEMENT OFFICE

9/24/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Contractor Input to Materiel Design Solution

DISCUSSION:

- A team approach has been used to best define the parameters of replacement components to incorporate emerging technology.

- Contractor participation has been employed but only after an acquisition strategy has been defined. A competitive strategy may result in disqualification of a contractor team member or in the unfair utilization of a contractor's design ideas.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

SHORT RANGE AIR DEFENSE (SHORAD)
PROJECT MANAGEMENT OFFICE

9/22/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Non-Developmental Item Contract Alliance

DISCUSSION: An Integrated Product Team prepared the performance specification and the entire Request for Proposal (RFP) package for the Avenger Fire Control Computer (AFCC) EMD program. Note: The AFCC is a replacement for the current Avenger fire control computer. The AFCC is a non-developmental item (NDI) since it makes maximum use of Commercial Off-The-Shelf (COTS) technology and uses a standard architecture and case. It will embed a Slew-to-Cue capability allowing faster acquisition and engagement of targets.

The same team that worked the RFP evaluated the bids from the offerors on the basis of "best value."

The government developed an in-house design solution for the AFCC through the Operating and Support Cost Reduction (OSCR) program. After contract award, the SHORAD PMO provided the solution and the test parameters as government furnished equipment (GFE) to the winning contractor. The contract did not obligate the contractor (Boeing Company) to heed the furnished documentation.

This contractor is, however, pursuing a design in consonance with the one that they were furnished. Data rights will remain with the government. IPT members from Boeing and SHORAD meet at least weekly and work together. Having both parties in Huntsville helps to quickly resolve issues as they arise.

SHORAD's IPT process brings clear objective and sharp focus for achievement. Its strong suit is the ability to comprehensively address issues in the infant stage.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

UNIVERSAL MODEM
PROJECT MANAGEMENT OFFICE

7/12/98

IPPM APPLICATION AREA: Government/Contractor Integration/Teaming

SUCCESSFUL PRACTICE: X: **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Partnering Agreement

DISCUSSION: The Universal Modem Project Manager Office (UMPMO) and the prime contractor have established a partnering agreement to use the IPPM/IPT approach to manage the UM development effort. Under the partnership, the contractor and the UMPMO have established counterpart IPTs which work together to manage the program.

The contractor and UMPMO IPTs meet every 2 months at the prime contractor's facility to manage the development effort. The meetings are held over 4 days. During the first 3 days, the system design personnel hold concurrent meetings to discuss such things as hardware, logistics, and test issues. On the 4th day, all of the IPT members and other essential personnel meet in a plenary session to integrate the design effort and resolve issues.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VOLCANO
PROJECT MANAGEMENT OFFICE

9/25/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: User Design Input

DISCUSSION: During the Volcano design phase in the mid 1980's, the TRADOC schools (Ft Rucker Aviation Center and School and the U.S. Army Engineering School), contractors (Honeywell and Sikorski), and government worked as a team to develop the mounting solution for the Air Volcano with the user taking the lead. The user also participated in design reviews and in the design and execution of extensive operational testing.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

WIDE AREA MINE (WAM)
PROJECT MANAGEMENT OFFICE

9/23/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Open Communication

DISCUSSION: Integrated Product Teams (IPTs) were introduced into the Wide Area Program during the Engineering and Manufacturing Development (EMD) phase and were maintained into the Limited Rate Production (LRP) phase and as part of the WAM Product Improvement Program (PIP). IPTs have worked very well for proposal development and evaluation resulting in a product that is desirable from both perspectives. Joint production review meetings with all issues openly defined have also resulted in ECPs being handled very quickly and efficiently. The openness and trust necessary for effective teaming must be fostered and developed over time and supported by effective chartering and team training.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

WIDE AREA MINE (WAM) PRODUCT IMPROVEMENT PROGRAM PROJECT MANAGEMENT OFFICE

9/21/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Team Definition

DISCUSSION: The WAM PIP IPT has been divided into sub-teams to address major areas of effort with each sub-team co-chaired by representatives from the government technical community and the prime contractor. The overall goal of IPT is to ensure that government program needs are provided within established funding limits. A steering committee, composed of key IPT representatives, functions as a liaison to the Program Management Office. This steering committee provides management oversight and direction and may elevate issues to the Program Management Office if required.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

MODERNIZED DEMOLITION INITIATORS (MDI)
PROJECT MANAGEMENT OFFICE

9/21/98

IPPM APPLICATION AREA: Program Cost

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Time Savings

DISCUSSION: The primary activities of the MDI IPT centered around the preparation and staffing of procurement request documents such as SOW, Performance Specs, etc. The IPT managed the initial Type Classification of the MDI program as well as the follow-on P31 program which added two more components to the original suite of initiators. It is estimated that a time savings of 25 percent was achieved in document preparation and staffing.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VOLCANO
PROJECT MANAGEMENT OFFICE

9/25/98

IPPM APPLICATION AREA: Program Cost

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Expanded Knowledge Base

DISCUSSION: Time and cost savings are difficult to quantify, particularly with smaller programs. The IPT methodology has fostered the inclusion of more functional perspectives earlier in the program with the consequence that wasted effort is more easily avoided.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

WIDE AREA MINE (WAM) PRODUCT IMPROVEMENT PROGRAM PROJECT MANAGEMENT OFFICE

9/21/98

IPPM APPLICATION AREA: Program Cost

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Acquisition Streamlining Team (AST)

DISCUSSION: An Acquisition Streamlining Team with representatives from the government and the contractor was formed to establish and manage contract documents for both the WAM Limited Rate Production Program and the WAM Product Improvement Program. Empowered representatives worked as a team to reach consensus on technical and programmatic issues and jointly develop the Request for Proposal, proposal, and post-award contract management procedures. From initiation of requirement until contract award, this IPT approach saved 161 days over the traditional sequential method for the LRP contract and 132 days for the PIP contract. The contractor estimates a cost savings of $400,000; the Ammunition Research Development and Engineering Center (ARDEC) estimates a savings to the government of $3.2 million dollars.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

WIDE AREA MINE (WAM) PRODUCT IMPROVEMENT PROGRAM PROJECT MANAGEMENT OFFICE

9/21/98

IPPM APPLICATION AREA: Program Cost

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Basis of Estimate

DISCUSSION: Within each sub-team's area of responsibility, cost estimates and time to completion for WBS tasks are modified as needed to accurately reflect the redefined contract scope of work. Each sub-team negotiates required engineering hours, material, and travel. A final product of each sub-team will be summary sheet documentation to support the Business Clearance Memorandum (BCM).

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

AN/GSC-52 MODERNIZATION PROGRAM
PROJECT MANAGEMENT OFFICE

9/23/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM:**

DESCRIPTION: Issue Resolution Ladder

DISCUSSION: Harris Corporation and the Government are partnering on the Integrated Product Team (IPT) for the modernization of the AN/GSC-52 Satellite Terminal. The team has established an issue resolution ladder which identifies a Harris Corporation representative and a Government representative at each resolution level along with a timeframe to reach resolution.

The AN/GSC-52 team recognized that establishing a timely process to deal with issues would not only expedite resolution but encourage team buy in, promote an open dialogue, and empower team members to make decisions. This keeps the team from getting bogged down if a disagreement arises. Establishing resolution responsibility for a Harris and Government representative at each level also served to identify the responsible parties in both organizations and promote a sound partnership. Any issues are raised and resolved early to avoid undermining team efficiency and spirit.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

AN/GSC-52 MODERNIZATION PROGRAM
PROJECT MANAGEMENT OFFICE

9/23/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM:**

DESCRIPTION: Team Goals

DISCUSSION: The AN/GSC-52 is one of the medium terminals in the Defense Satellite Communications System (DSCS). The DSCS provides Super High Frequency wideband and Anti-Jam satellite communications supporting critical national strategic and tactical C3I requirements.

The members of the PM DCATS team, including the contractor they were teaming with, Harris Government Communications Division, recognized the importance of fostering team spirit and setting goals and objectives to maximize team success. The goals and objectives they set included team goals as well as project goals. As part of the partnering/teaming efforts, they formalized their mission in a written partnering agreement. The partnering agreement included the following goals and objectives which all team members committed to by signing off on the agreement.

Deliver a Quality Product
Do it right the first time
Comply with specs.
Insure user satisfaction
Supportable product
Reliable and maintainable product
World Class Interactive Electronic Tech Manual
User-friendly interface
Safe to operate
World class satellite terminal

Maintain a Professional Relationship
Achieve Level III customer satisfaction
Open, honest, and timely communication
Treat each other with trust and respect
Willingness to share risk and to admit mistakes
Understand others' point of view
Strive for win-win
Synergize together
Have a sense of humor
Have fun!

Ahead of Schedule
Timely identification/resolution of issues
Streamline processes
Timely, continuous feedback
Utilize Issue Resolution Ladder
Team effort
Be innovative
Work to one schedule
Set ambitious yet achievable schedule

Reasonable Price
Set realistic expectations
Open, honest negotiations
Be flexible
Make fair profit
No claims
Take mutual responsibility for cost control
Avoid rework
Maximize common tools
Respect integrity of FFP contract

Effective change management

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

CONSTRUCTION EQUIPMENT AND MATERIAL HANDLING EQUIPMENT (CE/MHE) PROGRAM MANAGEMENT OFFICE

9/24/98

IPPM APPLICATION AREA: Government/Contractor Interaction/Teaming

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Partnering Charter Excerpts

DISCUSSION: The PM CE/MHE Office reports to the TACOM Deputy for System Acquisition (DSA). The PMO has ten Assistant Product Managers (APM), one Deputy PM, and one PM. The Deployable Universal Combat Earthmover (DEUCE) is managed by one of the APMs. The following successful practice is based on a partnering charter between the PM CE/MHE Office and the prime contractor. This charter is one of the tools that enable the APM to conduct her responsibilities without the help of matrix personnel. After stating the partners' expertise, the charter provides detailed Performance Objectives, Communication Objectives, and a Conflict Resolution System. Since partnering arrangements are consistent with IPPM principles and since the partnership could be considered a special type of IPT, several noteworthy sections are excerpted and paraphrased below for possible adaptation to other IPT or partnership charters.

PERFORMANCE OBJECTIVES

- Provide DEUCE machines which meet all performance requirements on schedule and afford the contractor to realize a reasonable profit.
- Require no work by the contractor beyond the effort required by the SOW of the contract.
- Maintain an LSS to ensure DEUCE availability which will enable the Government to exercise the warranty benefits established in the contract.
- Complete contract performance without litigation.

COMMUNICATION OBJECTIVES

- Take special efforts to ensure all other organizations are advised in a timely manner of status, issues, or problems.
- Commit each organization to quickly review proposed changes to the contract or proposed Government positions, and furnish comments and support to the lead organization.
- Encourage team members to identify proposals, potential problems, and potential "bad news" as soon as this information is known to enable team members to immediately seek resolution.
- Go beyond the transmittal of written documents to ensure complete, clear, timely, and effective communication. Use meetings, video conferencing, teleconferencing, electronic mail, and the telephone.

- CONFLICT RESOLUTION SYSTEM
- Maximize the focus on common goals and objectives and the achievement of win/win resolutions; minimize the development of adversarial attitudes which require largely unproductive offensive and defensive positioning.
- Administrative details: implement contract requirements at the lowest level possible; immediately raise unresolved differences through the supervisory chain to the Program Manager and the contracting officer; acknowledge that the PCO is the only one authorized to direct a change to the SOW, terms and conditions, or pricing arrangements; specify the contractor personnel who are authorized to enter into bilateral contract modifications and who can authorize the implementation of contract changes; immediately notify the supervisor of any unauthorized direction for additional work or any other unauthorized change to the contract. The supervisor shall then see to it that the Contracting Officer and the Program Manager are appropriately notified.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

FUTURE SCOUT AND CAVALRY SYSTEM
PROJECT MANAGEMENT OFFICE

9/17/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: RFP

DISCUSSION: The UK/US Joint Project Office (JPO) issued an RFP/ITT (Invitation To Tender) which called for proposals/tenders that incorporated IPPD during the Advanced Technology Demonstrator (ATD) phase of the project.

The RFP/ITT states that tenderers will submit IPPD Programme Management Plans to describe the overall programme control and engineering management effort and shall include the detailed processes, procedures, schedules, plans and controls necessary to execute and manage the design of the system and its supporting life cycle infrastructure.

The management plan coverage is to include the description of:

- Team composition and lines of authority
- The IPTs' products/work breakdown activities
- Organization chart of the tenderers' overall project team with supporting product teams and key subcontractors
- Tenderers' plans to train the IPTs
- The integration of Programme Management with the SYSTEM Engineering Process
- Links, integration and communication mechanisms
- Methods and tools to be used to facilitate timely and secure sharing of information and data

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

LAND WARRIOR
PROJECT MANAGEMENT OFFICE

10/7/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: **INFORMATION**: X **PROBLEM AREA**:

DESCRIPTION: IPT Structure

DISCUSSION:

- IPT members are selected on an as needed, when needed basis. Core functionality such as production , logistics, and manprint are identified.

- For complex or multi-faceted systems, an integration IPT is very important and should be formulated on the onset.

- Open communication is essential as is trust and mutual respect.

- A conflict resolution methodology is necessary and was initiated as part of the chartering process.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

LAND WARRIOR
PROJECT MANAGEMENT OFFICE

10/7/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: IPT Training During Kick-Off Meeting

DISCUSSION: The kick-off meeting held after award of the Engineering and Manufacturing Development contract award was devoted entirely to team training and the initiation of charter development. IPTs were organized for the major hardware components, systems integration, test and evaluation, and the ASARC process. In addition, a working group was established for training and ILS.

- The prime contractor took the lead in organizing and conducting team training.
- Outside facilitators were utilized.
- IPT leaders were selected from the ranks of account managers.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS
PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Meetings

DISCUSSION: All teams have Team Operating Manuals (TOM). The Multipurpose Integrated Chemical Agent Detector (MICAD) TOM is a typical example of the processes used by PM NBC Defense Systems Teams. The MICAD TOM coverage of team meetings is as follows:

Weekly team meetings:

- Weekly team meetings will use the standard team meeting agenda.
- The meeting leader for the weekly team meeting will rotate among all team members.
- The meeting leader will solicit the team for any additional items that need to be discussed at the meeting. This should be done 2 days prior to the meeting.
- The meeting leader should send out the final agenda to the team by COB the day before the meeting.
- The team operating code will be used during the meeting, i.e., being late, interruptions, etc.
- All team meetings will begin with an icebreaker. The person responsible for the icebreaker will rotate among all team members.
- The meeting leader will be responsible for getting minutes out to the team. This should be done within 2 working days after the meeting.
- The meeting leader will be responsible for getting the priority list updated and the agenda for the morning meeting with the director to the secretary for distribution.
- The team leader will act as the facilitator.

Other Meetings:

- The person requiring the meeting assumes responsibility of the meeting leader.
- Meeting planners must coordinate and notify required attendees. Required attendees must notify meeting planners of their intentions and/or availability.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS
PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Team Meeting Responsibilities

DISCUSSION: The Team Operating Manual for the MICAD System Manager has the following coverage of team meeting responsibilities:

Meeting Leader: Organize the meeting and team involvement ... Provide the agenda ... Clarify team member roles and responsibilities ... Establish ground rules and guidelines ... Encourage team involvement ... Control progress within established time limits ... Provide for follow-up documentation ... Arrange for a recorder if it is not yourself.

Facilitator: Refocus the group on meeting agenda whenever discussions get off track ... remain neutral during points of disagreement ... Help protect team members from verbal attack ... Encourage the group to move on when stuck on a particular topic.

Recorder: Help keep a visual record of meeting's content ... Make sure all key ideas and discussions have been recorded without editing ... Provide neutral support to the leader ... Regularly check with group to make sure appropriate information is being recorded ... Provide for follow-up meeting summary (minutes) which is distributed to all team members.

Members: Prepare for meetings as needed ... Attend meetings as scheduled and on time ... Support the established ground rules and meeting guidelines ... Listen openly to fellow team members ... Encourage the sharing of ideas ... Avoid making premature judgments about ideas being shared ... Complete all follow-up activities as agreed.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VOLCANO
PROJECT MANAGEMENT OFFICE

9/25/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Acquisition Streamlining

DISCUSSION: The Volcano was executed prior to many acquisition streamlining initiatives. Consequently, there were many mil specs requirements and data items included in the original acquisition strategy. Special IPTs were initiated to replace Mil-Std 2000 with an ANSI standard and to scrub the scope of work. Procurement, legal, engineering, and CDRL experts were assigned the task of revising the scope of work to eliminate outdated and unnecessary engineering requirements.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VOLCANO
PROJECT MANAGEMENT OFFICE

9/25/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Chartering and Team Membership

DISCUSSION:

- For small programs with a component breakout strategy, responsibility for charter development is given to the technical team leader. He is given the go-ahead when it looks like there will be a program. Management responsibility is by component breakout contract (metal parts, basic assembly, coil and strap, integration, etc).

- Team leaders are selected and participate as needed. For smaller programs, safety, engineering, test, electronics, and packaging are part time team members. They are given a small amount of money and the authority to use it as needed. There are only two full time team members for the Volcano IPT.

- IPT team meetings are usually scheduled on a monthly basis but are held weekly when significant issues (SOW definition or redefinition, J&As, etc., are being worked.)

- The inclusion of contractors on IPTs is not advised where full and open competition is the acquisition strategy and the program is mature.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VOLCANO
PROJECT MANAGEMENT OFFICE

9/25/98

IPPM APPLICATION AREA: How and When to Establish IPT

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Charters and Training

DISCUSSION: Regardless of how small a program is, teaming is essential to its success. Government and industry teaming is needed in the early phases of the programs; IPTs should be established and functioning as the contractor builds his vendor base. Even though charters may be institutionalized and fairly standard relative to smaller programs, they can be used as a vehicle to reiterate government/industry training, and training programs can be used as a vehicle to initiate interaction and communication.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

GLOBAL POSITIONING SYSTEM
PROJECT MANAGEMENT OFFICE

8/12/98

IPPM APPLICATION AREA: Organizational Level and Diversity

SUCCESSFUL PRACTICE: **INFORMATION**: X **PROBLEM AREA**:

DESCRIPTION: Vertical and Horizontal IPT Coordination

DISCUSSION: The GPS Program touches everyone in the Army. For this reason, the program is organized into a three-level IPT structure. The top IPT level, the Overarching IPT, includes members from the entire Army community. Membership includes representatives from the PEO Offices, HQ DA, TRADOC, HQ AMC, GPS Joint Program Office, space and missile defense community, SARDA, and DCSOPS. The OIPT meets quarterly. It has defined the acquisition strategy which is to reduce the number of GPS configurations from 170 to 10 or less. In addition, the GPS units will be integrated in the weapon platform. This approach requires standardization and accomplishes this through the use of an interface control specification. New weapon platform designs will require the use of an imbedded GPS card in the vehicle electronics. This strategy will result in the savings of millions of dollars and improved readiness and battlefield efficiency.

The second level IPT is an integrating IPT that is headed by the GPS PM. It integrates the activities of the working level IPTs and the OIPT. Membership on this IPT includes leaders of three WIPTs, contractor representatives, and matrix support representatives.

The three WIPTs consist of the Defense Advanced GPS Receiver (DAGR), GPS Inertial Navigation System, and GPS Receiver teams. The latter teams are just forming and are being patterned off of the DAGR IPT. The DAGR IPT includes all communities that are involved in the design, test, manufacture support, and use of GPS.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: Organizational Level and Diversity

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM:**

DESCRIPTION: Charters for Product Managers, System Managers, and Assistant Project Managers

DISCUSSION: Seven core personnel and 160 matrix personnel are assigned to the PMO for NBC Defense Systems. Within the PMO, there are several Product Managers, System Managers, and Assistant Project Managers.

IPPM/IPTs were considered when the charters were issued for the Product Managers and the System Managers within the NBC Defense Systems PMO. The Product Managers' charters state that "for these assigned programs, you will provide leadership and control to the assigned teams and put primary emphasis on meeting cost, schedule, and performance goals." The System Managers' charters resemble the above when they state that "you will plan, organize, staff, lead, and directly control the XYZ project team, putting primary emphasis on meeting cost, schedule, and performance goals."

Charters were also issued to the PMO's Assistant Project Managers. APMs are core personnel who are assigned on a functional basis, examples being APM Fielding, APM LOG, and APM T&E. The APMs are members of the OIPT for NBC Defense Systems.

Empowerment is delegated to the Product and System Managers as well as to the APMs with these words: "You are hereby delegated the full authority of the PM for NBC Defense Systems to execute this program."

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

UNIVERSAL MODEM
PROJECT MANAGEMENT OFFICE

7/12/98

IPPM APPLICATION AREA:: Organizational Level and Diversity

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Vertical and Horizontal Organization

DISCUSSION: The organization of the Universal Modem Project Manager Office (UMPMO) IPT structure is a vertical, three-tier structure that consists of an overarching IPT, an integrating IPT, and WIPTs at the government and contractor facilities.

The membership of the OIPT includes the PM, senior contractor personnel, Defense Information Systems Agency, TRADOC, Joint Staff Pentagon, PEO staff, Army Space Warfare, OPTEC, DUSD(SPACE), Army Combat Developers for Universal Modem from Fort Gordon ATZH, Navy SPAWAR, and Air Force Hanscom ESC Materiel Developer contractor representatives from the Massachusetts Institute of Technology Research Corporation.

Membership of the integrating IPT includes the PM, leaders of the working level IPTs, appropriate members of the working level IPTs, contractor representatives, and appropriate matrix personnel. The integrating IPT meets once a month. The purpose of the integrating IPT meetings is to coordinate the activities of the government and contractor WIPTs.

Membership in the government and the corresponding contractor horizontal WIPTs is composed of PM representatives and the essential design, test, logistics, production and other personnel.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

VIRTUAL GROUND TARGETS
INSTRUMENTATION, TARGETS AND THREAT SIMULATORS (ITTS)
PROJECT MANAGEMENT OFFICE

9/17/98

IPPM APPLICATION AREA: Organizational Level and Diversity

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Multi-Level Teaming

DISCUSSION: The PM ITTS is located at STRICOM in Orlando, FL. The ITTS PM Office is organized into three product directorates each of which is headed by a product director. The three product directorates are Targets, Threats Simulation, and Instrumentation. The Virtual Ground Targets Project (VGTP) is one of about 20 projects managed by the Targets Directorate.

The majority of projects under the Targets Directorate are organized as integrated product/project teams composed of individuals representing appropriate disciplines such as design, configuration management, etc. Each project is led by a project team leader.

The VGTP project team leader is responsible for both the project and a Modeling and Simulation team. The Modeling and Simulation team members consist of team leaders from three project teams under the Targets Directorate and from ad hoc teams operating in the modeling and simulation arena. These team members are called the "core team," and each of them represents the team of which they are leaders. The core team is led by the Modeling and Simulation team leader. In addition to the core team members is a representative from the STRICOM Software Engineering Directorate who is responsible for all contracts under PM ITTS. The core team meets once a week. Core team progress is reported at monthly meetings of the Targets Directorate by the team leader.

The core team concept is a best practice because it is efficient. It allows individual team leaders to report on project team progress and needs without involving individual members to be present. This best practice allows individual team members to continue the work in their respective disciplines without the interruption of having to attend and prepare for meetings at higher levels.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

MODERNIZED DEMOLITION INITIATORS (MDI)
PROJECT MANAGEMENT OFFICE

9/21/98

IPPM APPLICATION AREA: Organizational and Matrix Support

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Team Composition

DISCUSSION: The MDI Integrated Product Team has representation from engineering, procurement, manprint, new equipment training, product assurance, safety, logistics, and training manuals. There are two individuals from engineering assigned full time to the MDI program. The balance of the team members charge from 10 percent to 20 percent of their time to the MDI program. The Engineering School is also represented on the IPT. The MDI is a non-developmental item and therefore there is no contractor representation on the IPT.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: Organizational and Matrix Support

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Application to Total Army Performance Evaluation System (TAPES)

DISCUSSION: The NBC Defense Systems PMO has developed a performance appraisal system which bases the performance of team members on their team's performance. Steps/elements involved in the system are as follows:

- Team objectives are developed by the team and approved by the senior rater.
- Senior rater rates team's performance based on input from customers and team members.
- Team accomplishments/ratings are used in the evaluation of individual contributions.
- Individual team members also establish individual performance goals which are rated by the team leader.
- Senior rater approves deviations (up or down) in individual rating from team rating.

In their system, the PM is the senior rater; the DPM rates the team leader; the team leaders (seven system teams, and three product teams) are the raters for team members.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS
PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: Organizational and Matrix Support

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Expectations from Director/PM

DISCUSSION: The MICAD System Management Team (one of several IPTs within the PMO) has the following expectations, listed below, from the Director/PM of NBC Defense Systems. The inclusion of these expectations in the MICAD Team Operating Manual is an indication of management emphasis on IPPM/IPT and its institutionalization. The manual also covers the team's expectations for its own team leader and its own members. These topics are presented here on separate pages.

- Support teaming concept
- Obtain funding and protect moneys
- Defend programs at Command level
- Listen & respond in timely manner to issues
- Promote MICAD
- Support and defend team decisions
- Coordinate with other directories to resolve issues
- Provide feedback on team performance
- Share lessons learned documentation
- Be a leader
- Support visions and values
- Remain current at MACRO level
- Communicate info to teams
- Defend team resources - funds, personnel and equipment

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS
PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: Organizational and Matrix Support

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Expectations from Team Leader

DISCUSSION: The MICAD System Management Team (one of several IPTs within the PMO) has the following expectations, listed below, from their team leader. The inclusion of these expectations in the MICAD Team Operating Manual is an indication of management emphasis on IPPM/IPT and its institutionalization. The manual also covers the team's expectations for its members and the Director/PM for NBC Defense Systems. These topics are presented here on separate pages.

- Be a team member and follow expectations
- Follow and support team code
- Support the teaming concept
- Communicate higher level expectations
- Direct team effort
- Be a leader
- Lead by example
- Support visions and values
- Be fair and equal to all team members
- Resolve disputes
- Counsel
- Communicate information up/down
- Provide guidance on teaming
- Be a buffer/filter
- Assess team needs/personnel growth
- Be a good listener/open door policy
- Have a sense of humor
- Be aware of the perceptions that are generated

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

NUCLEAR, BIOLOGICAL, CHEMICAL DEFENSE SYSTEMS
PROJECT MANAGEMENT OFFICE

9/28/98

IPPM APPLICATION AREA: Organizational and Matrix Support

SUCCESSFUL PRACTICE: X **INFORMATION:** **PROBLEM AREA:**

DESCRIPTION: Expectations from Team Members

DISCUSSION: The MICAD System Management Team (one of several IPTs within the PMO) has the following expectations, listed below, from its team members. The inclusion of these expectations in the MICAD Team Operating Manual is an indication of management emphasis on IPPM/IPT and its institutionalization. The manual also covers the team's expectations for its own team leader and the director/PM. These topics are presented here on separate pages.

- Follow team code
- Be helpful, be honest
- Keep each other informed
- Be responsive when assisting others and when working priority issues
- Develop individually
- Share resources/information
- Be leaders in own functional area
- Stay current on team progress
- Be a good customer/supplier
- Remain technical/competent in functional areas
- Learn other functional area duties
- Have same level of expectations toward ALL team members
- Pay particular attention to satisfying team members asking for help
- Give ample notice to requests for help/assistance
- Don't expect from someone else what you wouldn't expect from yourself
- Don't ask someone else to do something when you are unwilling to do it yourself

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

WIDE AREA MINE (WAM)
PROJECT MANAGEMENT OFFICE

9/23/98

IPPM APPLICATION AREA: Organizational and Matrix Support

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Efficient Use of Resources

DISCUSSION: As the Army continues to downsize, there are fewer and fewer qualified people to work its development programs. It is therefore imperative to utilize the remaining workforce as effectively as possible. Integrated Product Teams (IPTs) are a desirable method of accomplishing more or the same with less. As IPTs tend to involve mostly government people, partnering has been explored as a means of incorporating the contractor into the IPT process.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

M113 FAMILY OF VEHICLES
PRODUCT MANAGEMENT OFFICE

9/11/98

IPPM APPLICATION AREA: Tools/Resources

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Virtual IPT Meetings

DISCUSSION: The M113 IPT has quarterly IPRs and weekly conference calls with UDLP, Anniston, AL, the contractor that converts and upgrades M113 vehicles. Also involved in the IPT are UDLP's engineering offices in San Jose, CA, and the Anniston Army Depot (ANAD) that overhauls M113 components which are then furnished to UDLP as GFE.

Quarterly IPRs have been held at the contractor's plant in Anniston so that TACOM members of the team could have across the table, eye to eye discussions with UDLP and, on occasion, with Anniston Army Depot personnel. In June 1998, a video link was established with TACOM, eliminating TDY for six to seven persons.

Weekly meetings start out among the Warren, MI, members of the IPT. After about an hour of discussions, UDLP and ANAD connect to the meeting via a conference call. Weekly meetings were markedly upgraded by allowing greater participation without TDY.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

SOLDIER SUPPORT SYSTEMS
PRODUCT MANAGEMENT OFFICE

9/18/98

IPPM APPLICATION AREA: Program Schedule

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: Test Scheduling

DISCUSSION: The PM's top experience with IPPM/IPTs is in the area of test scheduling. The PM is responsible for systems such as airdrop equipment, field service equipment, field feeding equipment and shelters. For a total of 56 product lines, in various phases of the their life cycle, the PM has only 13 core personnel assigned. Test related activities occupy a significant portion of the core and matrix personnel time. The IPPM/IPT approach makes it possible to rough out a draft schedule in one sitting of the IPT. This schedule is often very close to the formally coordinated test schedule. The IPPM/IPT approach has allowed tighter/compressed testing schedules and saved personnel time.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

TARGETS
INSTRUMENTATION, TARGETS AND THREAT SIMULATORS (ITTS)
PROJECT MANAGEMENT OFFICE

9/9/98

IPPM APPLICATION AREA: Other

SUCCESSFUL PRACTICE: **INFORMATION**: **PROBLEM AREA**: X

DESCRIPTION: Lack of Resources

DISCUSSION: IPPM/IPT has not been applied in the Targets Project Directorate Office (TPDO) because of a lack of human and funding resources. The TPDO feels that implementation of the IPPM/IPT concept, which they feel contains good ideas, requires the commitment of significant time and resources that would take people away from pressing issues. However, the TDPO has implemented IPPM/IPT concepts in many of the Directorate's projects. Its approach is to implement good aspects of IPPM/IPT in a common sense approach in new projects and contracts.

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IPPM SUCCESSFUL PRACTICES FOR SMALL PROGRAMS SURVEY

WIDE AREA MINE (WAM) PRODUCT IMPROVEMENT PROGRAM PROJECT MANAGEMENT OFFICE

8/27/98

IPPM APPLICATION AREA: Development Reviews

SUCCESSFUL PRACTICE: **INFORMATION:** X **PROBLEM AREA:**

DESCRIPTION: IPT Structure

DISCUSSION: Integrated Product Teams (IPTs) have been in place throughout the WAM program. An overarching IPT and several IPTs such as test, design, and component systems have been organized and chartered. Membership includes the PM, the technical community, quality assurance, tester and evaluator, maintenance, logistics, the user, and the contractor. All design reviews were organized around the IPT structure; issues and issue resolution status were presented, as appropriate, by each team. The various IPTs meet throughout the year on an ad-hoc basis averaging about six meetings per year.

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Program Cost

How and When to Establish IPT

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Organizational and Matrix Support

Miscellaneous

• Indicates Information

♦Indicates Problem

APPENDIX C

ACRONYMS

LIST OF ACRONYMS

ACAT	Army Acquisition Category
AFCC	Avenger Fire Control Computer
AHWG	Ad-Hoc Working Group
AIT	Analysis & Integration Team
AMC	U.S. Army Materiel Command
AMSAA	U.S. Army Materiel Systems Analysis Activity
ANAD	Anniston Army Depot
APM	Assistant Product Manager
ARDEC	Ammunition Research Development & Engineering Center
ARL	Army Research Laboratory
ASARC	Army Secretary Acquisition Review Council
AST	Acquisition Streamlining Team
ATD	Advanced Technology Demonstration
BCM	Business Clearance Memorandum
CABS	Cockpit Airbags Systems
CAD	Computer-Aided Design
CAIV	Cost As An Independent Variable
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CDT	Contractor Development Test
CE	Concurrent Engineering
CE/MHE	Construction Equipment & Material Handling Equipment
CID	Combat Identification
CITIS	Contractor Integrated Technical Information Service
COTS	Commercial Off-The-Shelf
CPA	Critical Path Analysis
CPFF	Cost Plus Fixed Fee
CSSR	Cost & Schedule Status Report
DAB	Defense Acquisition Board
DAES	Defense Acquisition Executive Summary
DARPA	Defense Advanced Research Projects Agency
DCAA	Defense Contract Audit Agency
DCATS	Defense Communications & Army Transmissions Systems
DCMC	Defense Contract Management Command
DCS	Diagnostic Control Systems
DAGR	Defense Advanced GPS Receiver
DEUCE	Deployable Universal Combat Earthmover
DIS	Distributed Interactive Simulations
DLA	Defense Logistics Agency
DOD	Department of Defense
DPRO	Defense Plant Representative Office

DSA	Deputy for System Acquisition
DSCS	Defense Satellite Communications System
DSREDS	Digital Storage and Retrieval Engineering Data System
DTUPC	Design To Unit Price Cost
ECP	Engineering Change Proposal
EMD	Engineering & Manufacturing Development
EPLRS	Enhanced Position Location Reporting System
EPR	Executive Progress Review
ERC	Executive Review Committee
ESG	Executive Steering Group
EVM	Earned Value Management
FCT	Foreign Comparative Test
FEE	Functional Execution Element
FMS	Foreign Military Sales
FSD	Full Scale Development
GFE	Government Furnished Equipment
GPS	Global Positioning System
IEA	U.S. Army Industrial Engineering Activity
IFSG	Industrial Forecasting Support Group
IFTE	Integrated Family of Test Equipment
IGES	Initial Graphics Exchange Standard
ILS	Integrated Logistics Support
IMP/IMS	Integrated Master Plan/Integrated Master Schedule
IOT	Initial Operational Test
IPD	Integrated Product Development
IPDP	Integrated Product Development Process
IPPD	Integrated Product and Process Development
IPPM	Integrated Product and Process Management
IPPM WG	Integrated Product and Process Management Working Group
IPR	In-Process Review
IPR	Interim Progress Review
IPRR	Interim Production Readiness Review
IPT	Integrated Product Team
ISO	International Standards Organization
ITT	Invitation to Tender
ITTS	Instrumentation, Targets & Threat Simulators
IVMMD	Interim Vehicle Mounted Mine Detection
JCALS	Joint Computer-Aided Acquisition & Logistics Support
JPO	Joint Program Office
JSIP	Joint Service Improvement Plan
LAN	Local Area Network
LOI	Letter of Instruction
LRIP	Low Rate Initial Production

LRP	Limited Rate Production
LW	Land Warrior
MCD	Mines, Countermines & Demolitions
MDI	Modernized Demolition Initiators
MDR	Milestone Decision Review
MEARS	Multi-User Engineering Change Proposal Automated Review System
MICAD	Multi-Purpose Integrated Chemical Agent Detector
MICOS	Milestone Control System
MOU	Memorandum of Understanding
MTBF	Mean Time Between Failure
MWG	Management Working Group
NBC	Nuclear, Biological, Chemical
NDI	Non-Developmental Item
OIPT	Overarching IPT
OPTEC	Operational Test & Evaluation Command
ORD	Operational Requirements Document
OSCR	Operating & Support Cost Reduction
OSD	Office of the Secretary of Defense
PAT	Process Action Team
PDR	Preliminary Design Review
PDRR	Program Definition & Risk Reduction
PDT	Product Development Team
PEO	Program Executive Officer
PERT	Program Evaluation & Review Technique
PIP	Product Improvement Plan
PIR	Program Integration Review
PM	Program Manager
PMLCTL:	Protective Masks Life Cycle Team Leader
PMM	Program Manager Meetings
PMO	Product Management Office
PMT	Program Management Team
POF	Physics of Failure
PPR	Program Progress Review
PQT	Production Qualification Test
RFP	Request for Proposal
RFPI	Rapid Force Projection Initiative
SADARM	Sense & Destroy Armor
SAF	Semi-Automated Forces
SDR	System Design Review
SEIT	Systems Engineering & Integration Team
SEP	Safety Enhancement Plan
SHORAD	Short Range Air Defense
SIMNET	Simulations Network

SIT	Systems Integration Team
SMART-T	Secure Mobile Anti-Jam Reliable Tactical Terminal
SOW	Scope of Work
SSEB	Source Selection Evaluation Board
SSR	Software Specification Review
SSS	Soldier Support Systems
STRICOM	U.S. Army Simulation & Training Command
STS	Standard Teleoperation System
TAPES	Total Army Performance Evaluation System
TARDEC	U.S. Army Tank-Automotive Research, Development & Engineering Center
TDFD	Time Delay Firing Device
TECOM	U.S. Army Test & Evaluation Command
TIM	Technical Interface Meeting
TIWG	Test and Integration Working Group
TOM	Team Operating Manual
TPM	Technical Performance Measurement
TRADOC	U.S. Army Training and Doctrine Command
TRR	Test Readiness Review
TSM	TRADOC System Manager
UASIS	U.S. Army Infantry School
UM	Universal Modem
USAAVNC	U.S. Army Aviation Center
VT	Vehicle Teleoperation
VTC	Video Teleconferencing
WAM	Wide Area Munitions
WBS	Work Breakdown Structure
WIPT	Working Integrated Product Team