

Indian Head Division Stands Up New Joint Program Office

Managing Sustainment of Cartridge Actuated Devices & Propellant Actuated Devices

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In the Department of Defense, joint-Service programs have existed for many years. Usually, two or more Services will join in a cooperative effort to develop, test, and acquire a weapon system. Once the system is fielded, ongoing sustainment traditionally becomes the responsibility of each using Service. *Sustainment* means the range of activities needed to maintain a system in operational usage, including spares acquisition, quality assurance, maintenance, repair, product improvement, and disposal. The joint program described in this article differs from the common model in four key respects:

- First, it employs jointness during the sustainment phase of the life cycle, rather than the usual development phase.
- Second, the program involves a commodity rather than a weapon system.
- Third, by accepting a lead-Service role, the Navy assumed responsibility for an important factor in the operational readiness of many Air Force aircraft, a move requiring a high level of trust on both sides.
- Fourth, the impetus for a joint program began at the working level, rather than being directed from the top.

What Are CADs/PADs?

Cartridge Actuated Devices (CAD) and Propellant Actuated Devices (PAD) are commodity items that function as a system component. In operation, they release precise explosive or propellant energy to perform controlled work functions in a variety of applications, including aircrew escape, fire suppression, and stores/emergency release systems.

They generally contain an energetic material along with a mechanical or electronic actuating component. About 3,100 different configurations are now in use by all Services. Many of these are man-rated, requiring a high degree of reliability.

Some CADs and PADs are expended in normal operations, such as those used for stores release; others are used only in emergencies. All have a defined shelf/service life and must be replaced periodically. CADs and PADs that are needed for safety of flight can cause the grounding of aircraft if they are defective or past their defined shelf/service life.

Life-Cycle Management Responsibilities

CADs and PADs are normally developed as a component of a weapon or life support system. Responsibility for initial development rests with the acquisition program manager. For example, the 112

CADs and PADs in the B-2 and the 222 CADs and PADs in the F-14 were developed along with other systems in the aircraft. In keeping with the cradle-to-grave concept, when a system is fielded overall responsibility for sustainment activities, including disposal when necessary, remains with the program manager. However, day-to-day responsibility for sustainment of CADs and PADs has been delegated within each Service to achieve economies of scale.

NAVY

For CADs and PADs in Navy systems, the delegation is to the Conventional Strike Weapons Program Office (PMA-201), which reports to the Program Executive Officer for Tactical Aircraft Programs. Execution of the Navy's sustainment program is accomplished by the Indian Head Division, Naval Surface Warfare Center. The size of the Navy program is about \$40 million annually.

AIR FORCE

Responsibility for sustainment of Air Force CADs and PADs was formerly delegated to a unit under the Air-to-Surface Product Group Manager (PGM) at the Ogden Air Logistics Center (ALC), who reports programmatically to the Armament Product Group Manager (APGM) at Eglin Air Force Base, Fla. The size of the Air Force program is about \$45 million annually.

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ARTIST'S CONCEPT OF THE
NEXT-GENERATION EJECTION
SEAT FOR THE F-18 AIRCRAFT.



ARMY

Responsibility for Army CAD/PAD has been consolidated within the Navy for many years.

Early Consolidation Efforts

In 1974 the Joint Logistics Commanders (JLC) agreed to consolidate most Army CAD/PAD functions within the Navy except requirements determination, budgeting, and inventory control. The agreement further stated the JLC intent that future consolidation of all remaining CAD/PAD functions under their command be accomplished at Indian Head.

Over the intervening years, the Air Force and Navy disagreed as to whether this

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statement of intent applied to Air Force-unique CADs and PADs, with the result that many Air Force functions continued to be executed separately at the Ogden ALC. Nevertheless, the agreement served as the starting point on a long road toward full consolidation of CAD/PAD program management functions.

Subsequent agreements among entities in the CAD/PAD community further strengthened the tri-Service nature of the program and broadened Indian Head's role to include involvement in the full life cycle. For example, experts from Indian Head routinely participate in Navy and Air Force aircraft development programs, including source selections and design reviews.

Factors Leading to the Joint Program Initiative

In recent years the effects of downsizing put pressure on Ogden's ability to maintain the expertise needed to execute Air Force CAD/PAD sustainment functions. The Navy program has not suffered to the same degree, largely because the Indian Head workforce is industrially funded. Accordingly, the Air-to-Surface PGM at Ogden suggested a study to evaluate the feasibility of a joint program.

The study, which was conducted by personnel from Ogden and Indian Head, determined that a joint program was feasible and that many efficiencies would result. Among these were elimination of unnecessary duplication in engineering, acquisition, and testing. Consolidated contracting would save by allowing fewer negotiations, contracts, lot acceptance tests, and site visits. Combined aging and surveillance testing aimed at common items and similar designs would yield further savings.

Further, a joint program would result in lower prices due to economies of scale and elimination of competition between the Services for the small industrial base. The user would benefit from better sharing of knowledge, and in the long term there would be less proliferation of multiple CAD/PAD types. And, a larger funding and personnel base would facilitate

better preservation of core expertise within DoD.

Organizational Structure

Upon approval of the CAD/PAD Joint Program Business Plan on April 16, 1998, day-to-day responsibility for DoD-wide sustainment was consolidated in the joint program, with the Navy as lead Service. The joint program reports to PMA-201. The key effect of this action is to change the programmatic reporting chain of the CAD/PAD unit at Odgen. That unit, which previously reported to the APMG at Eglin, now reports to PMA-201 through the joint program, thereby giving the Navy responsibility for sustainment of components that can affect the readiness of Air Force aircraft. Reporting for administrative purposes remains as before.

The Joint CAD/PAD Program has been constituted as an Integrated Product Team (IPT), managed by a small, jointly manned program office, reporting to PMA-201 as shown below. The program office will direct a competency-aligned organization, composed of engineering, logistics, corporate operations, manufacturing, and test competencies at Indian Head and an Air Force Integrated Product Team at Ogden ALC. The Indian Head complement consists of about 300 people. The Ogden group is the unit of approximately 18 people who previously managed sustainment of Air Force CADs and PADs from that location. Those personnel will remain Air Force employees initially, but may ultimately transfer administratively to the Navy if further downsizing affects the ability of

the Air Force IPT to provide adequate support. The Air Force may be supplemented with Navy authorizations as deemed necessary.

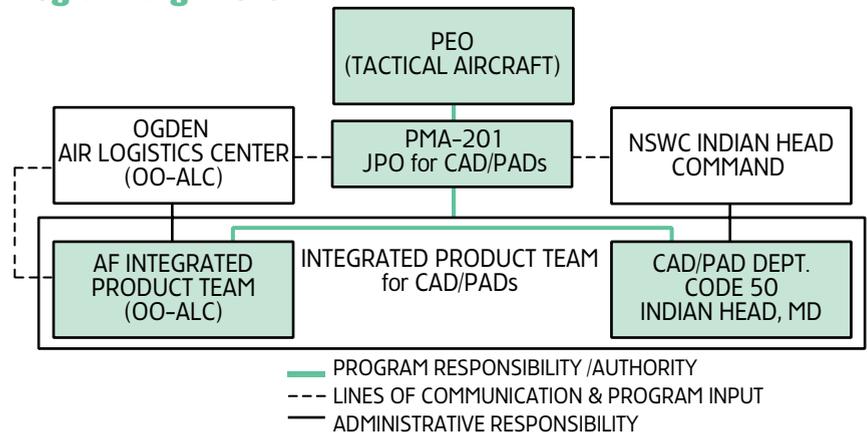
Administrative reporting and support relationships remain unchanged by stand-up of the joint program. The three departments from which the CAD/PAD competencies are drawn will continue to report to the commander at Indian Head, and the Air Force IPT reports to the Ogden ALC.

Business Strategy and Practices

A key goal of the joint program, as outlined in the Business Plan, is to employ best practices in providing operating forces and Foreign Military Sales customers with safe, reliable, cost-effective CADs and PADs, capable of fully satisfying requirements. The program will evolve during a phased transition, designed to mitigate risk. Initial changes to existing Service processes were demonstrated via trials or detailed analysis.

Contracting functions will continue to be shared by the Contracting Directorate at Ogden ALC and the Naval Inventory Control Point at Mechanicsburg, Pa. Efforts are underway to consolidate and standardize contract documents and processes to reduce duplication and accelerate contract awards. Frequent coordination between the two contracting organizations has begun, and workload will be redistributed to better use the contracting resources available. In the future, the contracting function may be consolidated further.

Program Alignment



Another goal is to enhance stewardship and communication with the CAD/PAD industrial base. Periodic technical exchange workshops have been held to keep companies abreast of developments in government laboratories. The joint program is now providing annual out-year procurement forecasts to aid industry with its planning.

Each Service will continue to be responsible for requirements determination and programming and budgeting to support its CAD/PAD needs. Funds will be transferred to the joint program for execution. The Services' existing financial management organizations and processes will continue to be used initially. The joint program will establish funding priorities and provide overall coordination of financial management functions. The potential for future consolidation of financial management functions will be evaluated.

Issues And Solutions

Jointness is hard, and especially so when new concepts are involved. The CAD/PAD Joint Program was born because visionary managers at the working level in the Air Force and Navy saw the greater value to DoD of consolidating a sustainment activity. Those same managers built the trust necessary to overcome the risks of doing business in a new way.

Air Force managers were properly concerned about loss of control over sustainment activities that support a component needed for readiness. The solution to this concern took a variety of forms. The program office is jointly manned. The No. 2 position is occupied by an Air Force lieutenant colonel, giving the Air-to-Surface PGM at Ogden and the Air Force chain of command a way to maintain close oversight. The Air Force will retain control of planning, programming, and budgeting for its needs, although consolidation of this function is an option for the future as confidence is built in both Services. The Ogden CAD/PAD personnel will continue as Air Force employees initially.

Another matter of great concern to managers at Ogden was the loss of workload at a time when workload is viewed as key to survival. Retaining the Ogden CAD/PAD personnel has preserved the workload, at least on paper, but the people and the capability they represent are still at risk in the next downsizing.

For the Navy's part, the biggest hurdle was acceptance of responsibility for an element of Air Force readiness. Surprisingly, this proved to be relatively easy. PMA-201 has had considerable experience with joint programs, including the Joint Stand-Off Weapon. As a result, they were very familiar with the benefits and challenges and, taking a DoD view, were convinced that a joint program for CAD/PAD made sense in today's environment.

Early Results and Lessons Learned

An early accomplishment of the joint program has been rapid and coordinated response to problems affecting readiness. Recently, the entire B-2 fleet was grounded for a brief period because of a design flaw in a time-delay initiator, a CAD/PAD device. But with the entire team, including the contractor, in place and in communication, a fix was developed, tested, approved, and installed in only a week, and the aircraft were returned to flight status.

In another success story, two items used for emergency inflation of a pilot's life vest, which were managed by the Defense Logistics Agency previously, have been transferred to the joint program. This move will result in cost savings of over \$600,000 due to contracting efficiencies and establishment of a rework program. Two more items are scheduled for transfer soon with additional anticipated savings in the range of \$1 to \$2 million.

The key lesson to date has been the importance of having shared goals and objectives developed and reaffirmed through frequent teambuilding efforts. Continuous communication among team members is essential in this regard and is possible with modern informa-

tion technology despite the geographic barriers.

Future Plans

The business plan contains agreed-to first steps for operation of the Joint Program. These represent a "walk-before-run" approach so that the transition to joint operation will be transparent to the users. As the program gains experience, additional process consolidations will be considered. These include further consolidation of support functions such as contracting, combined Foreign Military Sales support, common requirements determination, and joint programming and budgeting, joint stock and inventory control.

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