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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Office of Secretary Of Defense **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>
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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
Total Program Element	15.511	16.637	9.290	-	9.290	8.180	8.341	8.506	8.663	Continuing	Continuing
P857: <i>Joint Fires Integration &amp; Interoperability</i>	15.511	16.637	9.290	-	9.290	8.180	8.341	8.506	8.663	Continuing	Continuing

**Note**

At the time of this submission, the Department of Defense is developing the Joint Systems program strategy and objectives for FY 12 and beyond. This is as a result of the decision to disestablish U.S. Joint Forces Command, and the Secretary of Defense's efficiency initiatives. Any additional changes for FY12 projects and objectives will be provided when available.

**A. Mission Description and Budget Item Justification**

The Joint Fires Integration & Interoperability Team (JFIIT) funded by this program is a compact cell of unique Joint fires experts adding value to much larger Service investments in force elements delivering kinetic and non kinetic effects supporting ground operations. Services, Joint, and Combatant Commanders and their Staffs proactively seek JFIIT advice and assistance to improve the execution of combat fires applied in complex coalition and joint environments.

Prior to Fiscal Year 2007, funding to support the JFIIT Program originated in the Navy's Research, Development, Test and Evaluation (RDT&E) Program Element 0603857N. Subsequent realignment brought the JFIIT Program into oversight by Director Defense Research & Engineering (DDR&E) and converted the program element into a Defense-wide account.

Joint Requirements Oversight Council Memorandum (JROCM) 183-4, dated 8 Oct 04, directed U.S. Joint Forces Command (USJFCOM) to establish a Joint Fires Support Organization. JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission. USJFCOM Directive Number 5170.2 dated 30 Nov 07, Charter for JFIIT, assigns JFIIT responsibility to improve Joint fires planning, training and execution as a critical capability for deployed joint warfighters.

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires. JFIIT takes a holistic approach to improving Joint fires by providing solutions that produce effective target acquisition, command and control, and interoperable firing systems, thereby reducing fratricide and collateral damage. This results in not only near-term tactical identification of issues and solutions, but also informs and provides a foundation for short and long-term operational and tactical capabilities.

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	16.972	16.637	16.764	-	16.764
Current President's Budget	15.511	16.637	9.290	-	9.290
Total Adjustments	-1.461	-	-7.474	-	-7.474
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.499	-			
• Other Program Adjustments	-0.962	-	-	-	-
• Defense Efficiency – JFCOM Task Force	-	-	-7.125	-	-7.125
• Defense Efficiency – Reports, Studies, Boards, and Commissions	-	-	-0.242	-	-0.242
• Defense Efficiency - Baseline Review	-	-	-0.087	-	-0.087
• Economic Assumptions	-	-	-0.020	-	-0.020

**Change Summary Explanation**

Defense Efficiency – JFCOM Task Force. As part of the Department of Defense reform agenda, a zero-based review of the organization to align resources to the most critical priorities and eliminate lower priority functions. This is as a result of the decision to disestablish U.S. Joint Forces Command, and the Secretary of Defense's efficiency initiatives. Any additional changes for FY12 projects and objectives will be provided when available.

Defense Efficiency – Report, Studies, Boards and Commissions. As part of the Department of Defense reform agenda, reflects a reduction in the number and cost of reports, studies, DoD Boards and DoD Commissions below the aggregate level reported in previous budget submission.

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
P857: <i>Joint Fires Integration &amp; Interoperability</i>	15.511	16.637	9.290	-	9.290	8.180	8.341	8.506	8.663	Continuing	Continuing
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**

The Joint Fires Integration & Interoperability Team (JFIIT) funded by this program is a compact cell of unique Joint fires experts adding value to much larger Service investments in force elements delivering kinetic and non kinetic effects supporting ground operations. Services, Joint, and Combatant Commanders and their Staffs proactively seek JFIIT advice and assistance to improve the execution of combat fires applied in complex coalition and joint environments.

Prior to Fiscal Year 2007, funding to support the JFIIT Program originated in the Navy's Research, Development, Test and Evaluation (RDT&E) Program Element 0603857N. Subsequent realignment brought the JFIIT Program into oversight by Director Defense Research & Engineering (DDR&E) and converted the program element into a Defense-wide account.

Joint Requirements Oversight Council Memorandum (JROCM) 183-4, dated 8 Oct 04, directed U.S. Joint Forces Command (USJFCOM) to establish a Joint Fires Support Organization. JROCM 241-05, dated 3 Nov 05, validated the JFIIT mission. USJFCOM Directive Number 5170.2 dated 30 Nov 07, Charter for JFIIT, assigns JFIIT responsibility to improve Joint fires planning, training and execution as a critical capability for deployed joint warfighters.

The JFIIT mission is to improve the integration, interoperability, and operational effectiveness of Joint fires. JFIIT takes a holistic approach to improving Joint fires by providing solutions that produce effective target acquisition, command and control, and interoperable firing systems, thereby reducing fratricide and collateral damage. This results in not only near-term tactical identification of issues and solutions, but also informs and provides a foundation for short and long-term operational and tactical capabilities.

**B. Accomplishments/Planned Programs (\$ in Millions)**

	FY 2010	FY 2011	FY 2012
<b>Title:</b> Joint Fires Integration & Interoperability (JFIIT) Assessments and Evaluations	11.013	11.886	-
<b>Description:</b> Employ scientific methods to research, investigate, test, assess, and evaluate current and emerging Joint fires capabilities. These activities identify shortfalls and root cause, verify recommended solutions, and validate joint capabilities. The resultant empirical outcomes influence Joint Capability development in areas such as Joint Tactics, Techniques and Procedures; integration of service capabilities; and digital interoperability, and can inform acquisition decisions.			
The emphasis of JFIIT Assessment efforts is the evaluation of Joint fires and combat identification to provide Services and Agencies findings and recommendation based on quantifiable data in order to improve Joint fires. JFIIT collects and analyzes data and provides observations, findings, conclusions, and recommendations to identify Joint doctrine, training, and material solutions			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
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and products that promote capability improvement. Accurate data is necessary to effectively develop solutions to identified problems. JFIIT provides a truth-based data collection capability to support a holistic approach to the overall improvement of Joint fires. Evaluations range from small, single-focus events to large, multi event/ venue exercises.

JFIIT conducts assessments in conjunction with Service and Combatant Command (COCOM) exercises, experiments, and test & evaluation events. The emphasis of this JFIIT effort is assessing Joint fires and combat identification capabilities to ensure that Services and Agencies field interdependent and interoperable systems and training. JFIIT Assessment efforts include verifying an accurate Joint environment is provided for realistic training that exercises one or more Joint tasks, assessing Joint context and Joint task execution while addressing the effectiveness of a Joint training program and identifying the need for continued support of Joint fires tactics, techniques and procedures (TTP) and doctrine. JFIIT assessments provide input to acquisition processes and enhance Joint development as programs are funded and developed.

The primary outputs and efficiencies include:

- Improvement in the Services' ability to employ Joint fires.
- Improved Joint Intelligence, Surveillance, and Reconnaissance (ISR) and integrated Air to Ground training at Home Station and the Combat Training Centers.
- An enhanced Joint operational environment at the Combat Training Centers that supports the execution of Joint tasks during service training and enhances JFIIT's ability to conduct assessments.
- Recommended solutions integrated within the Joint Staff Joint Capabilities Integration Development System (JCIDS) and OSD Joint C2 Capability Portfolio Manager (JC2 CPM) processes
- Identification of specific key performance parameters (KPPs) and key system attributes (KSAs) for new systems that meet Joint warfighter operational requirements to ensure Services and Agencies field interdependent and interoperable systems
- Published doctrine and Joint Tactics, Techniques and Procedures (TTP) to efficiently and effectively employ Joint forces at the tactical level
- Increased effectiveness and confidence in combat identification and a reduction in fratricide.

***FY 2010 Accomplishments:***

- In support of the US Army Training and Doctrine Command (TRADOC), developed Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on observations and analysis at various training events and venues. Benefits include better trained staffs, improved Joint TTP, and improved pre-deployment training.
- In support of US Army TRADOC and US Air Force Air Combat Command (ACC), improved the tactical application of Joint Intelligence, Surveillance, and Reconnaissance (ISR) and the integration of Air to Ground Operations at the National Training

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>Center, Fort Irwin, CA, and Green Flag West, Nellis AFB, NV. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during 10 rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of US Army TRADOC and USAF ACC, improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Readiness Training Center, Fort Polk, LA, and Green Flag East, Barksdale AFB, LA. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during 10 rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of US Army TRADOC and US Air Forces Europe (USAFE), improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Multi-National Readiness Center, Hohenfels, Germany. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USMC Marine Air-Ground Task Force – Training Command (MAGTF-TC) improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Marine Corps Air Ground Combat Center, Twenty-Nine Palms, CA. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple Enhanced Mojave Viper and Spartan Resolve rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p>				

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>- Continued to support the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) thru support of Bold Quest 10. Provided analytical support to a Military Utility Assessment of coalition and US Combat Identification Systems. Also, provided instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits include improved ability to assess various participating coalition and US systems, improved joint task execution, and an effective Military Utility Assessment of US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</p> <p>- Continued support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for deployment and assisted in the identification of solutions in support of irregular warfare issues identified during these joint task execution and joint capabilities assessments.</p> <p>- Continued support to US Air Forces Central (USAFCENT formerly USCENTAF) and the 18th Air Support Operations Group (ASOG) in their training of Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) teams during exercises Atlantic Strike. Provided system architecture and integration planning and execution, assessment of training capabilities, and feedback to the training audience and trainers. Benefits included increased combat readiness of Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) as well as Air Support Operations Squadron (ASOS) personnel.</p> <p>- Led a short notice Tactical Cellular (TactiCell) Limited Operational Assessment (LOA) as a culminating event in a series of limited objective events. Provided tactical operators and led the assessment team in an effort to evaluate the military benefit of TactiCell to small unit operations. In addition, the TactiCell LOA demonstrated the value of using Universal Joint Tasks (UJT) to conduct tactical and technical assessments.</p> <p>- Supported Joint Integrated Air and Missile Defense Organization (JIAMDO) collecting data, developing and refining collection and display capabilities at their Joint Sensor Integration 2010 distributed test. JFIIT displayed, logged, and replayed the common operational pictures as seen at the Maritime Operations Center and the Carrier Battle Group collecting ground truth and Link 16 data at both nodes. JFIIT displayed data received from Global Command and Control System - Joint (GCCS-J) and Link 16 data from Air Defense System Integrator (ADSI) and logged it for further analysis.</p> <p>- Supported OUSD AT&amp;L JI and DASD C3S2 by providing direct support to the Engineering Change Implementation Group (ECIG) in the continuing Digitally-Aided Close Air Support Coordinated Implementation (DACAS CI) effort, which oversees the DACAS engineering change management process, from engineering change proposal approval to block upgrade completion. Led the ECIG Operational Working Group (OWG) to formulate DACAS Block 1 test and assessment strategies and develop required</p>			

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DACAS test measures. Primary or a contributing author for all DACAS test and assessment documents to include: The DACAS Test, Assessment, and Coordination of Fielding (TACOF) Strategy, the DACAS System of Systems Operational Context for Test (SOC-T), DACAS Data Management and Analysis Plan and DACAS Joint Test Threads. Provided SME support to a DACAS risk reduction test event utilizing the JITC DACAS test tool.

- Participated in the Tactical Edge Data Solutions (TEDS) Joint Capability Technology Demonstration (JCTD) Limited Operational Utility Assessment (LOUA) as the emergent C2 Node or "unanticipated user" reuse case. Demonstrated the capability of a third party utilizing TEDS metadata artifact to develop a system that can consume and process a C2 Core-based position report message. Documented the development process and related issues for measures-based assessment inputs. In addition, JFIIT provided unique feedback and recommendations concerning more complex reuse cases that would require C2 Core extension methodologies.

**FY 2011 Plans:**

- Develop Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on observations and analysis throughout this process. Benefits will include better trained service members, improved Joint TTP, and improved pre-deployment training.

- In support of, US Army Forces Command (FORSCOM) and US Air Force Air Combat Command (ACC), continue efforts to improve the tactical application of Joint ISR and the integration of Air to Ground Operations at the National Training Center, Fort Irwin, CA, and Green Flag West, Nellis AFB, NV. Conduct assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to Joint training. Assist in developing and implementing architectures for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during designated training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report. Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.

- In support of USA FORSCOM and USAF ACC, continue efforts to improve the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Readiness Training Center, Fort Polk, LA, and Green Flag East, Barksdale AFB, LA. Conduct assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to Joint training. Assist in developing and implementing architectures for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during designated training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary

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<p>Report. Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <ul style="list-style-type: none"> <li>- In support of USA Training and Doctrine Command (TRADOC) and US Air Forces Europe (USAFE), continue efforts to improve the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Multi-National Readiness Center, Hohenfels, Germany. Conduct assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to Joint training. Assist in developing and implementing architectures for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during select training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report. Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</li> <li>- In support of USMC Marine Air-Ground Task Force – Training Command (MAGTF-TC) continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the Marine Corps Air Ground Combat Center, Twenty-Nine Palms, CA. Conduct assessments of Joint Training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to joint Training. Assist in developing and implementing architectures for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during Spartan Advance and Spartan Resolve training exercises. Provide a post event debrief to the venue staff and an Exercise Summary Report. Continue efforts to define training support to Marine Corps Tactics and Operations Group (MCTOG). Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</li> <li>- In support of USN Naval Surface Warfare Center (NSWC), provide analytical support to netted sensor assessments conducted to determine how to integrate world-wide sensors on a Global Information Grid (GIG) to allow for a common operational picture. Also provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved integration of world-wide sensors and improved Joint interoperability.</li> <li>- Continue to support the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) Bold Quest events. Provide analytical support to a Military Utility Assessment of coalition and US Combat Identification Systems. Provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved ability to assess various participating coalition and US systems, improved joint task execution, and an effective Military Utility Assessment of US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</li> </ul>			

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<p>- Continue support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for deployment and assist in the identification of solutions in support of irregular warfare issues identified during these joint task execution and joint capabilities assessments.</p> <p>- Continue support to USAFCENT and the various Air Support Operations Groups (ASOGs) in their training of Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) teams. Provide planning and execution support, assessment of training capabilities, and feedback to the training audience and trainers. Benefits will include increased combat readiness of JTACs and JFOs as well as Air Support Operations Squadron (ASOS) personnel.</p> <p>- In support of the Joint Integrated Missile Defense Organization (JIAMDO), provide analysis support to assess technology integration and interoperability during JIAMDO Joint Sensor Integration event. Benefits will include improvements in Joint Sensor Integration to provide an Integrated Air and Missile Defense Common Operational Picture.</p> <p>- In support of the Joint Fires Support Executive Steering Committee, conduct an airspace control interoperability analysis. Benefits will include recommendations for airspace control Tactics, Techniques, and Procedures in the areas of standardization and digital interoperability and development of associated Universal Joint Tasks to standardize the airspace control training.</p> <p>- Continue support to Joint Integrated Air and Missile Defense Organization (JIAMDO) Joint Integrated Sensor testing with data collection, analysis and display using JFIIT developed collection and analysis tools Joint fires Subject Matter Experts and analysts.</p> <p>- Continue support to OUSD AT&amp;L Joint Integration and DASD C3S2 by providing direct support to the Engineering Change Implementation Group (ECIG) in the continuing Digitally-Aided Close Air Support Coordinated Implementation (DACAS CI) effort. Participate in the 2011 DACAS risk reduction test event employing the JITC test tool. Continue Block 1 efforts and assist in the development of Block 2 engineering change proposals and all required Block 2 test and assessment documentation.</p> <p><b>FY 2012 Plans:</b></p> <p>- JFIIT Mission transitions to Joint Fires Capability Assessments in FY12</p>				
<b>Title:</b> Joint Fires Integration & Interoperability (JFIIT) Capabilities Development		4.498	4.751	-
<b>Description:</b> The emphasis of the JFIIT Capabilities Development effort is continued development of Joint Fires and combat identification capabilities. JFIIT focuses on current and emergent Joint fires capabilities such as tactics, techniques, and procedures (TTP), Systems, and System of Systems. JFIIT is working with the Combat Training Centers to enhance Joint				

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training for evolving Joint fires issues identified during the rotational units pre-deployment exercises as the basis to develop tactical level recommendations to address the operational gaps and seams. To support Service and Component Command (COCOM) capability development efforts, JFIIT develops Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) Change Recommendations; improvements in coordinating fires, command and control, and firing systems interoperability resulting in increased effectiveness and efficiency; and provides technical expertise in identifying Joint solutions to capability gaps.

The primary outputs and efficiencies include:

- Validated Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) Joint fires recommendations
- Improvements in Joint Terminal Attack Controller (JTAC) and Joint Fires Observer equipment and Tactics, Techniques and Procedures (TTP)
- Appraisals of service venues joint context and ability to support joint training
- Resolution of Combat Identification and Joint Close Air Support Action Plan issues
- Publication of Tactical Leader's Joint Intelligence, Surveillance & Reconnaissance (ISR) Handbook
- Accreditation/certification for Joint fires context and training capability of service venues
- Recommendations for tactical Joint fires improvement solutions
- Recommendations for system integration and interoperability
- Optimum utilization of currently fielded systems as evidenced through feedback from deployed forces
- Ability to include Joint context during new system acquisition or development
- New system capability that meets current Joint operational requirements
- Proposed Joint fires related TTP and doctrine
- Increased effectiveness and confidence in combat identification as evidenced through feedback from deployed forces
- Reduced collateral damage and decreased number of fratricide incidents across the force
- Improved capabilities to train forces in a Joint environment
- Development of Joint fires related Universal Joint Tasks (UJT)
- Updates and revisions to Joint fires related doctrine, TTP, and other Joint publications.

***FY 2010 Accomplishments:***

- In support of the US Army Training and Doctrine Command (TRADOC), developed Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on observations and analysis at various training events and venues. Benefits include better trained staffs, improved Joint TTP, and improved pre-deployment training.

<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Office of Secretary Of Defense		<b>DATE:</b> February 2011		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>	<b>PROJECT</b> P857: <i>Joint Fires Integration &amp; Interoperability</i>		
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>- In support of US Army TRADOC and US Air Force Air Combat Command (ACC), improved the tactical application of Joint Intelligence, Surveillance, and Reconnaissance (ISR) and the integration of Air to Ground Operations at the National Training Center, Fort Irwin, CA, and Green Flag West, Nellis AFB, NV. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during 10 rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of US Army TRADOC and USAF ACC, improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Readiness Training Center, Fort Polk, LA, and Green Flag East, Barksdale AFB, LA. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during 10 rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of US Army TRADOC and US Air Forces Europe (USAFE), improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Multi-National Readiness Center, Hohenfels, Germany. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during rotations. Provided a post-event debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USMC Marine Air-Ground Task Force – Training Command (MAGTF-TC) improved the tactical application of Joint ISR and the integration of Air to Ground Operations at the Marine Corps Air Ground Combat Center, Twenty-Nine Palms, CA. Conducted assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments resulted in recommendations for improvements to Joint training. Assisted in developing and implementing architectures for integration and interoperability of systems. Provided feedback to exercise participants, observer trainers/controllers, and venue support staff during multiple Enhanced Mojave Viper and Spartan Resolve rotations. Provided a post-event</p>				

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>debrief to the venue staff and an Exercise Summary Report. Benefits include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <ul style="list-style-type: none"> <li>- Continued to support the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) thru support of Bold Quest 10. Provided analytical support to a Military Utility Assessment of coalition and US Combat Identification Systems. Also, provided instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits include improved ability to assess various participating coalition and US systems, improved joint task execution, and an effective Military Utility Assessment of US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</li> <li>- Continued support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for deployment and assisted in the identification of solutions in support of irregular warfare issues identified during these joint task execution and joint capabilities assessments.</li> <li>- Continued support to US Air Forces Central (USAFCENT formerly USCENTAF) and the 18th Air Support Operations Group (ASOG) in their training of Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) teams during exercises Atlantic Strike. Provided system architecture and integration planning and execution, assessment of training capabilities, and feedback to the training audience and trainers. Benefits included increased combat readiness of Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) as well as Air Support Operations Squadron (ASOS) personnel.</li> <li>- Led a short notice Tactical Cellular (TactiCell) Limited Operational Assessment (LOA) as a culminating event in a series of limited objective events. Provided tactical operators and led the assessment team in an effort to evaluate the military benefit of TactiCell to small unit operations. In addition, the TactiCell LOA demonstrated the value of using Universal Joint Tasks (UJT) to conduct tactical and technical assessments.</li> <li>- Supported Joint Integrated Air and Missile Defense Organization (JIAMDO) collecting data, developing and refining collection and display capabilities at their Joint Sensor Integration 2010 distributed test. JFIIT displayed, logged, and replayed the common operational pictures as seen at the Maritime Operations Center and the Carrier Battle Group collecting ground truth and Link 16 data at both nodes. JFIIT displayed data received from Global Command and Control System - Joint (GCCS-J) and Link 16 data from Air Defense System Integrator (ADSI) and logged it for further analysis.</li> <li>- Supported OUSD AT&amp;L JI and DASD C3S2 by providing direct support to the Engineering Change Implementation Group (ECIG) in the continuing Digitally-Aided Close Air Support Coordinated Implementation (DACAS CI) effort, which oversees the</li> </ul>				

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Office of Secretary Of Defense	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>	<b>PROJECT</b> P857: <i>Joint Fires Integration &amp; Interoperability</i>
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
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DACAS engineering change management process, from engineering change proposal approval to block upgrade completion. Led the ECIG Operational Working Group (OWG) to formulate DACAS Block 1 test and assessment strategies and develop required DACAS test measures. Primary or a contributing author for all DACAS test and assessment documents to include: The DACAS Test, Assessment, and Coordination of Fielding (TACOF) Strategy, the DACAS System of Systems Operational Context for Test (SOC-T), DACAS Data Management and Analysis Plan and DACAS Joint Test Threads. Provided SME support to a DACAS risk reduction test event utilizing the JITC DACAS test tool.

- Participated in the Tactical Edge Data Solutions (TEDS) Joint Capability Technology Demonstration (JCTD) Limited Operational Utility Assessment (LOUA) as the emergent C2 Node or "unanticipated user" reuse case. Demonstrated the capability of a third party utilizing TEDS metadata artifact to develop a system that can consume and process a C2 Core-based position report message. Documented the development process and related issues for measures-based assessment inputs. In addition, JFIIT provided unique feedback and recommendations concerning more complex reuse cases that would require C2 Core extension methodologies.

**FY 2011 Plans:**

- Develop Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) recommendations and proposals for changes to unit Standard Operating Procedure and improvements to Brigade Combat Team pre-deployment training based on observations and analysis throughout this process. Benefits will include better trained service members, improved Joint TTP, and improved pre-deployment training.

- In support of, US Army Forces Command (FORSCOM) and US Air Force Air Combat Command (ACC), continue efforts to improve the tactical application of Joint ISR and the integration of Air to Ground Operations at the National Training Center, Fort Irwin, CA, and Green Flag West, Nellis AFB, NV. Conduct assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to Joint training. Assist in developing and implementing architectures for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during designated training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report. Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.

- In support of USA FORSCOM and USAF ACC, continue efforts to improve the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Readiness Training Center, Fort Polk, LA, and Green Flag East, Barksdale AFB, LA. Conduct assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to Joint training. Assist in developing and implementing architectures

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during designated training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report. Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USA Training and Doctrine Command (TRADOC) and US Air Forces Europe (USAFE), continue efforts to improve the tactical application of Joint ISR and the integration of Air to Ground Operations at the Joint Multi-National Readiness Center, Hohenfels, Germany. Conduct assessments of Joint training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to Joint training. Assist in developing and implementing architectures for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during select training rotations. Provide a post-event debrief to the venue staff and an Exercise Summary Report. Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USMC Marine Air-Ground Task Force – Training Command (MAGTF-TC) continue efforts to improve the tactical application of Joint ISR and the Integration of Air to Ground Operations at the Marine Corps Air Ground Combat Center, Twenty-Nine Palms, CA. Conduct assessments of Joint Training through collection and analysis of data on Universal Joint Tasks. Trend analysis of assessments to form recommendations for improvements to joint Training. Assist in developing and implementing architectures for integration and interoperability of systems. Provide feedback to exercise participants, observer trainers/controllers, and venue support staff during Spartan Advance and Spartan Resolve training exercises. Provide a post event debrief to the venue staff and an Exercise Summary Report. Continue efforts to define training support to Marine Corps Tactics and Operations Group (MCTOG). Benefits will include improved ability to execute joint tasks at service training venues and an improved Joint operational environment and Joint context at a Service Combat Training Center.</p> <p>- In support of USN Naval Surface Warfare Center (NSWC), provide analytical support to netted sensor assessments conducted to determine how to integrate world-wide sensors on a Global Information Grid (GIG) to allow for a common operational picture. Also provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved integration of world-wide sensors and improved Joint interoperability.</p> <p>- Continue to support the Coalition Combat Identification Advanced Combat Identification Demonstration (CCID ACTD) Bold Quest events. Provide analytical support to a Military Utility Assessment of coalition and US Combat Identification Systems. Provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved ability to assess various participating coalition and US systems, improved joint task execution, and</p>				

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>an effective Military Utility Assessment of US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</p> <ul style="list-style-type: none"> <li>- Continue support for irregular warfare in the capability and training assessment of special operations exercises and events in preparation for deployment and assist in the identification of solutions in support of irregular warfare issues identified during these joint task execution and joint capabilities assessments.</li> <li>- Continue support to USAFCENT and the various Air Support Operations Groups (ASOGs) in their training of Joint Terminal Attack Controllers (JTACs) and Joint Fires Officers (JFOs) teams. Provide planning and execution support, assessment of training capabilities, and feedback to the training audience and trainers. Benefits will include increased combat readiness of JTACs and JFOs as well as Air Support Operations Squadron (ASOS) personnel.</li> <li>- In support of the Joint Integrated Missile Defense Organization (JIAMDO), provide analysis support to assess technology integration and interoperability during JIAMDO Joint Sensor Integration event. Benefits will include improvements in Joint Sensor Integration to provide an Integrated Air and Missile Defense Common Operational Picture.</li> <li>- In support of the Joint Fires Support Executive Steering Committee, conduct an airspace control interoperability analysis. Benefits will include recommendations for airspace control Tactics, Techniques, and Procedures in the areas of standardization and digital interoperability and development of associated Universal Joint Tasks to standardize the airspace control training.</li> <li>- Continue support to Joint Integrated Air and Missile Defense Organization (JIAMDO) Joint Integrated Sensor testing with data collection, analysis and display using JFIIT developed collection and analysis tools Joint fires Subject Matter Experts and analysts.</li> <li>- Continue support to OUSD AT&amp;L Joint Integration and DASD C3S2 by providing direct support to the Engineering Change Implementation Group (ECIG) in the continuing Digitally-Aided Close Air Support Coordinated Implementation (DACAS CI) effort. Participate in the 2011 DACAS risk reduction test event employing the JITC test tool. Continue Block 1 efforts and assist in the development of Block 2 engineering change proposals and all required Block 2 test and assessment documentation.</li> </ul> <p><b>FY 2012 Plans:</b></p> <ul style="list-style-type: none"> <li>- JFIIT Mission transitions to Joint Fires Capability Assessments in FY12</li> </ul>				
<b>Title:</b> Joint Fires Integration & Interoperability (JFIIT)- Joint Fires Capability Assessments		-	-	9.290

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Office of Secretary Of Defense		<b>DATE:</b> February 2011	
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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>
<p><b>Description:</b> Employ scientific methods to research, investigate, test, assess, and evaluate current and emerging Joint fires capabilities. These activities identify shortfalls and root cause, verify recommended solutions, and validate joint capabilities. The resultant empirical outcomes influence Joint Capability development in areas such as Joint Tactics, Techniques and Procedures; integration of service capabilities; and digital interoperability, and can inform acquisition decisions.</p> <p>The emphasis of JFIIT Assessment efforts is the evaluation of Joint fires and combat identification to provide Services and Agencies findings and recommendations based on quantifiable data in order to improve Joint fires. JFIIT collects and analyzes data and provides observations, findings, conclusions, and recommendations to identify Joint doctrine, tactics, techniques, and procedures (TTP) and material solutions and products that promote capability improvement. Evaluations range from small, single-focus events to large, multi event/ venue exercises.</p> <p>JFIIT conducts assessments in conjunction with Service and Combatant Command (COCOM) exercises, experiments, and test &amp; evaluation events. The emphasis of this JFIIT effort is assessing Joint fires and combat identification capabilities to ensure that Services and Agencies field interdependent and interoperable systems.</p> <p>The primary outputs and efficiencies include:</p> <ul style="list-style-type: none"> <li>- Improvement in the Services' ability to employ Joint fires.</li> <li>- Recommendations for system integration and interoperability.</li> <li>- Ability to include Joint context during new system acquisition or development.</li> <li>- Development of Joint fires related Universal Joint Tasks (UJT).</li> <li>- Updates and revisions to Joint fires related doctrine, TTP, and other Joint publications.</li> <li>- Development and refinement of analytical tools (i.e. Data Collection Architecture for Analytical Feedback (DCAAF), Joint Windows-based Warfare Assessment Model (JWinWAM))</li> <li>- Recommended solutions integrated within the Joint Staff Joint Capabilities Integration Development System (JCIDS) and OSD Joint C2 Capability Portfolio Manager (JC2 CPM) processes</li> <li>- Identification of specific key performance parameters (KPPs) and key system attributes (KSAs) for new systems that meet Joint warfighter operational requirements to ensure Services and Agencies field interdependent and interoperable systems</li> <li>- Increased effectiveness and confidence in combat identification and a reduction in fratricide.</li> </ul> <p><b>FY 2012 Plans:</b></p> <ul style="list-style-type: none"> <li>- Provide analytical support to a Military Utility Assessment of coalition and US Combat Identification Systems. Provide instrumentation, data collection, data capture, real-time mission monitoring, and feedback to participants via daily debriefings. Benefits will include improved ability to assess various participating coalition and US systems, improved joint task execution, and</li> </ul>			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<p>an effective Military Utility Assessment of US Combat Identification systems while greatly reducing the timeline required to provide fact-based recommendations.</p> <ul style="list-style-type: none"> <li>- Provide analytical support to assess technology integration and interoperability during Joint Sensor Integration events. Benefits will include improvements in Joint Sensor Integration to provide an Integrated Air and Missile Defense Common Operational Picture.</li> <li>- In support of the Joint Fires Support Executive Steering Committee, conduct an airspace control interoperability analysis. Benefits will include recommendations for airspace control Tactics, Techniques, and Procedures in the areas of standardization and digital interoperability and development of associated Universal Joint Tasks to standardize the airspace control training.</li> <li>- Provide support to Joint Integrated Sensor testing with data collection, analysis and display using JFIIT developed collection and analysis tools Joint</li> <li>- Continue Joint Windows-based Warfare Assessment Model (JWinWAM) software and development to support JFIIT assessment activities and the efforts of other government agencies as directed.</li> <li>- - Continue to develop the tactical Universal Joint Task (UJT) for airspace management (TA 3.3.2 Control Tactical Airspace) and associated Additional Task Detail (ATD) that decomposes and amplifies the UJT. This UJT and the ATDs have been posted to the Joint Doctrine, Education, &amp; Training Information System (JDEIS).</li> <li>-</li> <li>- Continued to refine ATDs for TA 3.2.2 Conduct Close Air Support (CAS), TA 3.2.1 Conduct Fire Support, and TA 2 Share Intelligence.</li> <li>- Continued development of the Tier 1 Joint Close Air Support (CAS) Joint Mission Thread (JMT) and beginning of the Tier 1 Joint Fires JMT.</li> </ul>				
<b>Accomplishments/Planned Programs Subtotals</b>		15.511	16.637	9.290
<b>C. Other Program Funding Summary (\$ in Millions)</b>				
N/A				
<b>D. Acquisition Strategy</b>				
Not applicable for this item.				

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**E. Performance Metrics**

JFIIT delivers Joint solutions for tactical forces deployed to Combatant Commands (COCOMs). Deliverables may include: discrete improvements to training processes; doctrine; Tactics, Techniques, & Procedures (TTPs); and/or technical system performance specifications and standards; validated Doctrine, Organization, Training, Material, Leadership, Personnel, Facilities (DOTMLPF) Joint fires recommendations; timely delivery of quality feedback to exercise participants; or improvements to Joint context of a training venue. JFIIT works with USD AT&L/DDR&E, Services and COCOMs to approve the annual agenda of work and validate results.

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2012 Office of Secretary Of Defense		<b>DATE:</b> February 2011
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	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Operational Test & Planning, Publications																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2012 Office of Secretary Of Defense		<b>DATE:</b> February 2011
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development &amp; Prototypes (ACD&amp;P)</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0604828D8Z: <i>Joint Fires Integration &amp; Interoperability</i>	<b>PROJECT</b> P857: <i>Joint Fires Integration &amp; Interoperability</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Operational Test & Planning, Publications	1	2010	4	2016