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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

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| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603506N: <i>Surface Ship Torpedo Defense</i> |
|---|--|

| COST (\$ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 49.625 | 118.764 | 93.346 | - | 93.346 | 81.156 | 31.956 | 33.821 | 24.054 | Continuing | Continuing |
| 0225: <i>Surface Ship Torpedo Defense (SSTD)</i> | 49.625 | 118.764 | 93.346 | - | 93.346 | 81.156 | 31.956 | 33.821 | 24.054 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The Surface Ship Torpedo Defense (SSTD) program provides a detect-to-engage hardkill torpedo defense capability through two development programs. The Countermeasure Anti-Torpedo (CAT) program develops a canisterized Anti-Torpedo Torpedo (ATT) as an ACAT II program. The Torpedo Warning System (TWS) develops the required ship systems as an ACAT III program. Additionally, the program will require fielding of the AN/SLQ-25X (NIXIE) (Previously identified as AN/SLQ-25D) system as a tow point for the TWS towed sensors. This requires interfacing NIXIE power and data transfer with the TWS.

The program will focus on first providing torpedo defense capability to High Value Units (HUV). The SSTD system will be installed on one CVN and one Combat Logistics Force (CLF) ship (both HUVs) with initial operational capability (IOC) in FY 2018.

Additionally, the program will develop and field six surface ship torpedo defense prototype systems (TWS/CAT) on CVNs. Each prototype consists of one TWS and 10 CATs. The 6 systems are required to be accelerated due to the lack of torpedo defense on HUVs which has been exacerbated by recent real-world events and evolving threats. The systems provide a hard-kill torpedo defense capability in advance of the IOC as part of the program of record. To accomplish this effort, the department reprogrammed \$9.9 million of FY 2010 funds and received a prior approval reprogramming for an additional \$7.9 million of FY 2010 funds. The first two prototypes are expected to deliver in FY14, two systems in FY15, and two systems in FY16.

Finally, the program will deliver one hybrid prototype system in FY 13. This is in addition to the six prototype systems discussed above. The system will deliver some capability to a forward deployed CVN asset before the first prototype system is available.

At-sea demonstrations of the Torpedo Detection Classification and Localization (TDCL) systems conducted in FY06 through FY09 led to a CRUDES TDCL draft system specification in FY09 which is being modified to accommodate installation of a system for HUVs. Additionally, in 2nd Qtr FY10, prototype TDCL systems were tested at sea to collect data to characterize the ability of towed active and passive sonar arrays to detect and track threat targets both actively and passively in adverse conditions. System manufacturing readiness levels indicate FY18 as most acceptable risk for delivery.

Successful at-sea testing of the Anti-Torpedo Torpedo Engineering Development Model (EDM-1) in FY06 through FY09 facilitates completion of the ATT EDM-2 design in early FY12. The EDM-2 design will be the ATT included in the six fielded prototype systems.

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| B. Program Change Summary (\$ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 57.796 | 118.764 | 83.739 | - | 83.739 |
| Current President's Budget | 49.625 | 118.764 | 93.346 | - | 93.346 |
| Total Adjustments | -8.171 | - | 9.607 | - | 9.607 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.913 | - | | | |
| • Program Adjustments | - | - | 9.898 | - | 9.898 |
| • Rate/Misc Adjustments | - | - | -0.291 | - | -0.291 |
| • Congressional General Reductions Adjustments | -0.258 | - | - | - | - |
| • Congressional Directed Reductions Adjustments | -7.000 | - | - | - | - |

Change Summary Explanation

Technical and Schedule: Congress reduced FY 11 funding due to MS B delay. Added FY 10 funds in support of surface ship torpedo defense (SSTD) prototype systems commensurate with PB 12 program redirection. Accelerated the IOC for CAT from FY 2021 to FY 2018 and delayed the IOC for the TWS from FY 2017 to 2018 to better align capabilities. Added funds in FY 2103 to support the hybrid prototype system.

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| Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy | | | | | | | | | DATE: February 2012 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | | | | R-1 ITEM NOMENCLATURE PE 0603506N: <i>Surface Ship Torpedo Defense</i> | | | | PROJECT 0225: <i>Surface Ship Torpedo Defense (SSTD)</i> | | | |
| COST (\$ in Millions) | FY 2011 | FY 2012 | FY 2013 Base | FY 2013 OCO | FY 2013 Total | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To Complete | Total Cost |
| 0225: <i>Surface Ship Torpedo Defense (SSTD)</i> | 49.625 | 118.764 | 93.346 | - | 93.346 | 81.156 | 31.956 | 33.821 | 24.054 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Surface Ship Torpedo Defense (SSTD) program provides a detect-to-engage hardkill torpedo defense capability through two development programs. The Countermeasure Anti-Torpedo (CAT) program develops a canisterized Anti-Torpedo Torpedo (ATT) as an ACAT II program. The Torpedo Warning System (TWS) develops the required ship systems as an ACAT III program. The system also requires fielding the AN/SLQ-25X (NIXIE) system (previously called the AN/SLQ-25D) as a tow point for the TWS towed sensors. This requires interfacing NIXIE power and data transfer with TWS.

SSTD system will be installed on one CVN and one Combat Logistics Force (CLF) ship (both HVUs) with an IOC of FY2018. The first increment of the CAT will be installed on HVUs in FY2018.

Additionally, the program will develop and field six prototype surface ship torpedo defense prototype systems CVNs and one hybrid prototype system on a forward deployed CVN.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2011 | FY 2012 | FY 2013 |
|--|----------------|----------------|----------------|
| Title: Countermeasure Anti-Torpedo (CAT) | 28.738 | 74.892 | 51.394 |
| Articles: | 0 | 30 | 15 |
| FY 2011 Accomplishments: Completed ATT EDM-2 detailed design, subsystem and system level testing including fabrication of EDM-1 components unaffected by the EDM-2 design. | | | |
| FY 2012 Plans: Continue EDM-2 fabrication in support of subsystem builds and land-based testing. Subsystem testing will support delivery of first technical data package and Baseline EDM-2 Design. Continue Insensitive Munitions testing, firing module Qualification Testing and mechanical Integration Testing. Continue conducting Weapons System Explosive Safety Review Board (WSESRB) review of the CAT program. | | | |
| FY 2013 Plans: Complete the CAT technical data package. Complete land based testing of EDM-2 and start CAT in-water testing. Conduct initial subsystem integration testing. Procure materials for prototype delivery to include AURE and warhead. Complete fabrication of | | | |

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

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| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2011 | FY 2012 | FY 2013 |
|--|-------------|-------------|-------------|
| subsystems for EDM-2 CATs in support of early prototype delivery in FY14. Complete shipyard and Alteration Installation Team (AIT) installation of Hybrid Prototype System on a forward deployed CVN. | | | |
| <p>Title: Torpedo Warning System (TWS)</p> <p align="right">Articles:</p> | 18.800 0 | 41.872 3 | 40.952 1 |
| <p>FY 2011 Accomplishments: Completed design and build of towed sensor EDM to be tested in FY12. Developed Torpedo Detection Classification and Localization (TDCL) algorithms.</p> <p>FY 2012 Plans: Conduct lake testing for towed array performance evaluation. Continue development of Torpedo Detection Classification and Localization (TDCL) algorithms. Commence design of fire control and CAT ready-stowage racks for the HVU application.</p> <p>FY 2013 Plans: Continue fire control and CAT ready-stowage racks design and testing. Conduct sea test on sensors and algorithms developed in FY11 and FY12. Complete fabrication of EDM prototype systems in support of early prototype delivery in FY14.</p> | | | |
| <p>Title: AN/SLQ-25X (previously AN/SLQ-25D)</p> <p align="right">Articles:</p> | 2.087 3 | 2.000 0 | 1.000 0 |
| <p>FY 2011 Accomplishments: Developed combined Acquisition Strategy and Acquisition Plan in support of RFP issued for AN/SLQ-25X procurement.</p> <p>FY 2012 Plans: Issue competitive contract for development and procurement of two AN/SLQ-25X systems to support FY14 testing of TWS systems.</p> <p>FY 2013 Plans: Complete development of AN/SLQ-25X and Capability Design Review.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 49.625 | 118.764 | 93.346 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|------------|
| Line Item | FY 2011 | FY 2012 | FY 2013 | FY 2013 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | FY 2017 | Cost To | |
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • OPN/221300: <i>SSTD</i> | 0.000 | 1.257 | 10.716 | 0.000 | 10.716 | 12.402 | 18.251 | 17.174 | 28.713 | 222.248 | 439.058 |
| • WPN/311300: <i>SSTD</i> | 2.500 | 0.000 | 2.700 | 0.000 | 2.700 | 2.698 | 26.796 | 29.096 | 26.099 | Continuing | Continuing |

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D. Acquisition Strategy

CAT Program: Under the ATTDS program In FY09 and FY10, the CAT project completed a Systems Requirements Review (SRR) and Preliminary Design Review (PDR) on the second Engineering Development Model (EDM-2) design. The Applied Research Laboratory (ARL) is now preparing the detailed EDM-2 design. ARL will complete the EDM-2 design in early FY12. A Critical Design Review (CDR) will be held after the design is complete. ARL will fabricate test articles and 60 total EDM-2 CATs in support of the prototype fielding. Integration testing will begin in FY13 and continue through delivery of the prototype CATs. A complete Technical Data Package (TDP) will be prepared. With the shift in IOC to FY18, program will enter Milestone C decision in late FY14 (as a result of CAT IOC shift to FY18, acquisition strategy changed to enter acquisition process at Milestone C). Additionally, in late FY14 a competitive fixed price contract will be awarded to build Low Rate Initial Production (LRIP) units. These will support Operational Testing beginning in FY17 for an FY18 IOC.

TWS Program: In FY09 and FY10, a towed sensor system specification was developed and 2 sea tests were conducted on Navy destroyers that demonstrated the ability of three different passive sonar ranging techniques and demonstrated the benefit of new torpedo detection sonar waveforms. Data from these tests is being applied to the HVU application, and the sensor specification is being modified to meet the increased capability required for HVU ships. Development and production of the new sensors is being conducted by 3 Phoenix and Ultra Ocean Systems. A complete sensor set was delivered in 2nd QTR FY12 to support an at sea test in the 3rd QTR FY12. At the same time, a ready-stowage rack, and fire control systems are being developed by NUWC and NSWC. All of these components will be brought together for integration in FY13. This integration will support fabrication and fielding of the prototype systems. Land based integration with the AN/SLQ-25X system is planned in FY14. This testing will inform a Milestone C decision in late FY14. A single competitive contract will be awarded for TWS LRIP systems to support Operational Testing with an FY18 IOC.

AN/SLQ-25X System: The AN/SLQ-25X system specification (cabinet, winch, tow cable, towed body) for integration with the previous ATTDS program was completed in 2nd QTR FY10. This specification was modified for integration with the TWS system for use on HVU ships. This specification was used for a competitive contract RFP in FY11 to develop and build two AN/SLQ-25X systems. This contract will use FY12 RDT&E funding to accomplish the engineering development and FY10 OPN to build the systems. The first system will deliver in 4th QTR FY13 and will be installed on a CVN ship to support TWS testing.

E. Performance Metrics

- Torpedo Effectiveness for the CAT
- Torpedo Detection Classification and Localization (TDCL) False Alert Rate
- TDCL probability of correct classification
- TWS System Availability

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

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| Product Development (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | WR | NUWC:Newport, RI | 27.304 | 4.500 | Nov 2011 | 5.600 | Nov 2012 | - | | 5.600 | Continuing | Continuing | Continuing |
| Systems Engineering ATT Dev. | C/CPFF | PSU/ARL:State College, PA | 128.499 | 48.800 | Nov 2011 | 34.338 | Nov 2012 | - | | 34.338 | Continuing | Continuing | Continuing |
| Systems Engineering | C/CPFF | JHU/APL:Baltimore, MD | 1.740 | 0.400 | Feb 2012 | 0.200 | Feb 2013 | - | | 0.200 | Continuing | Continuing | Continuing |
| Systems Engineering Warhead Dev. | WR | NSWC:Indian Head, MD | 34.841 | 12.100 | Nov 2011 | 12.100 | Nov 2012 | - | | 12.100 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NUWC:Keyport, WA | 14.775 | 8.000 | Nov 2011 | 11.300 | Nov 2012 | - | | 11.300 | Continuing | Continuing | Continuing |
| Systems Engineering TDCL | C/CPFF | Ultra:Braintree, MA | 11.640 | 5.000 | Feb 2012 | 3.000 | Feb 2013 | - | | 3.000 | 0.000 | 19.640 | Continuing |
| Systems Engineering ATT | WR | ONR:Arlington, VA | 1.680 | 0.100 | Jan 2012 | 0.100 | Jan 2013 | - | | 0.100 | Continuing | Continuing | Continuing |
| Systems Engineering TDCL | C/CPFF | AAC:Hauppauge, NY | 3.830 | - | | 0.200 | Jan 2013 | - | | 0.200 | 0.000 | 4.030 | Continuing |
| Systems Engineering | WR | OPTEVFOR:Norfolk, VA | 0.743 | 0.150 | Feb 2012 | 0.150 | Feb 2013 | - | | 0.150 | Continuing | Continuing | Continuing |
| Systems Engineering | C/CPFF | ArgonST:Manassas, VA | 0.800 | - | | - | | - | | - | 0.000 | 0.800 | Continuing |
| Systems Engineering TDCL | WR | NSWC:Dahlgren, VA | 5.247 | 2.000 | Nov 2011 | 1.500 | Nov 2012 | - | | 1.500 | 0.000 | 8.747 | Continuing |
| Systems Engineering TDCL | WR | SPAWAR:San Diego, CA | 1.320 | 1.000 | Dec 2011 | 1.000 | Dec 2012 | - | | 1.000 | 0.000 | 3.320 | Continuing |
| Systems Engineering | C/CPFF | UT/ARL:Not Specified | 0.600 | 0.250 | Feb 2012 | 0.500 | Feb 2013 | - | | 0.500 | 0.000 | 1.350 | Continuing |
| Systems Engineering | C/CPFF | Alion:Bridgeport, CT | 2.526 | 3.784 | Dec 2011 | 3.700 | Dec 2012 | - | | 3.700 | 0.000 | 10.010 | Continuing |
| Systems Engineering | WR | NUWC DET:Norfolk, VA | 2.525 | 2.300 | Nov 2011 | 2.300 | Nov 2012 | - | | 2.300 | 0.000 | 7.125 | |
| Systems Development | C/CPFF | 3 Phoenix:Fairfax, VA | 14.904 | 26.780 | Dec 2011 | 14.358 | Dec 2012 | - | | 14.358 | 0.000 | 56.042 | Continuing |
| Integrated Logistic Spt | WR | NSWC Crane:Crane, IN | 0.384 | 0.350 | Dec 2011 | 0.350 | Dec 2012 | - | | 0.350 | 0.000 | 1.084 | Continuing |
| Prototype Development | C/FFP | TBD:TBD | 2.087 | 0.500 | Dec 2011 | - | | - | | - | 0.000 | 2.587 | |
| Subtotal | | | 255.445 | 116.014 | | 90.696 | | - | | 90.696 | | | |

| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 Base | | FY 2013 OCO | | FY 2013 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Earned Value Mgmt Spt | C/CPAF | Pioneer:Virigina | 0.050 | 0.250 | Dec 2011 | 0.250 | Dec 2012 | - | | 0.250 | 0.000 | 0.550 | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy | | DATE: February 2012 |
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| Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy | | DATE: February 2012 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0603506N: <i>Surface Ship Torpedo Defense</i> | PROJECT 0225: <i>Surface Ship Torpedo Defense (SSTD)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0225 | | | | |
| AN/SLQ-25X: AN/SLQ-25X - RFP | 2 | 2011 | 1 | 2012 |
| AN/SLQ-25X: AN/SLQ-25X - CONTRACT AWARD | 1 | 2012 | 1 | 2012 |
| AN/SLQ-25X: AN/SLQ-25X - PRODUCTION UNITS 1 & 2 (EDM) | 3 | 2012 | 4 | 2013 |
| AN/SLQ-25X: AN/SLQ-25X SRR | 3 | 2012 | 3 | 2012 |
| AN/SLQ-25X: AN/SLQ-25X - PDR | 1 | 2013 | 1 | 2013 |
| AN/SLQ-25X: AN/SLQ-25X - CAPABILITY DESIGN REVIEW (CDR) | 4 | 2013 | 4 | 2013 |
| AN/SLQ-25X: AN/SLQ-25X - PRODUCTION | 4 | 2013 | 4 | 2017 |
| TWS: TWS - Passive Ranging | 1 | 2011 | 3 | 2011 |
| TWS: TWS - CAS TDCL | 1 | 2011 | 4 | 2011 |
| TWS: TWS - MS B ILA | 3 | 2011 | 3 | 2011 |
| TWS: TWS - TWS Baselines | 2 | 2011 | 3 | 2013 |
| TWS: TWS - System Readiness Review (SRR) | 4 | 2011 | 4 | 2011 |
| TWS: TWS - SSTRP | 4 | 2011 | 4 | 2011 |
| TWS: TWS - WSESRB | 4 | 2011 | 4 | 2011 |
| TWS: TWS - Milestone B | 4 | 2011 | 4 | 2011 |
| TWS: TWS - Lake Test | 1 | 2012 | 1 | 2012 |
| TWS: TWS - Integrated Design Review (IDR) | 1 | 2012 | 1 | 2012 |
| TWS: EDM-1 | 1 | 2012 | 2 | 2013 |
| TWS: TWS - WSESRB2 | 2 | 2012 | 2 | 2012 |
| TWS: TWS - Torpedo Acquisition Group (TAG) TDCL Tech | 3 | 2012 | 3 | 2012 |
| TWS: TWS - Preliminary Design Review (PDR) | 3 | 2012 | 3 | 2012 |

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| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| TWS: TWS - SSTRP2 | 1 | 2013 | 1 | 2013 |
| TWS: TWS - EDM-2/3 | 1 | 2013 | 4 | 2013 |
| TWS: TWS - TAG TCG | 2 | 2013 | 2 | 2013 |
| TWS: TWS - EDM-4 | 3 | 2013 | 2 | 2014 |
| TWS: TWS - TAG TCG Ready Stow Group (RSG) | 4 | 2013 | 4 | 2013 |
| TWS: TWS - Capability Design Review (CDR) | 4 | 2013 | 4 | 2013 |
| TWS: TWS - SSSTRP3 | 1 | 2014 | 1 | 2014 |
| TWS: TWS - WSESRB3 | 1 | 2014 | 1 | 2014 |
| TWS: TWS - Technical Readiness Review (TRR) | 2 | 2014 | 2 | 2014 |
| TWS: TWS - 25X Integration | 2 | 2014 | 2 | 2015 |
| TWS: TWS - EDM Dry Run | 2 | 2014 | 2 | 2014 |
| TWS: TWS - RP | 2 | 2014 | 2 | 2014 |
| TWS: TWS - EDM Demo | 4 | 2014 | 4 | 2014 |
| TWS: TWS - Milestone C | 4 | 2014 | 4 | 2014 |
| TWS: TWS - LRIP | 1 | 2015 | 2 | 2017 |
| TWS: TWS - TWS/25X In Water Tests | 2 | 2015 | 4 | 2016 |
| TWS: TWS - LRIP Tech Eval | 4 | 2016 | 4 | 2016 |
| TWS: TWS - SSSTRP4 | 1 | 2017 | 1 | 2017 |
| TWS: TWS - WSESRB4 | 1 | 2017 | 1 | 2017 |
| TWS: TWS - OT | 3 | 2017 | 4 | 2017 |
| CAT: CAT - EDM-2 Design | 1 | 2011 | 1 | 2012 |
| CAT: CAT AURE Design | 1 | 2011 | 2 | 2012 |
| CAT: CAT - FABRICATE EDM-2 HARDWARE | 1 | 2012 | 2 | 2013 |
| CAT: CAT - HWTDP/IDR | 1 | 2012 | 1 | 2012 |
| CAT: CAT - LAND BASED SYSTEM TEST | 2 | 2012 | 2 | 2013 |

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|---|--|--|

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| CAT: CAT AURE FABRICATION | 2 | 2012 | 2 | 2013 |
| CAT: CAT - IN WATER TESTING | 2 | 2013 | 3 | 2014 |
| CAT: CAT EDM2 Design Delivery 1 - Hybrid Prototype System | 3 | 2013 | 3 | 2013 |
| CAT: CAT FISTRP | 1 | 2014 | 1 | 2014 |
| CAT: CAT EDM DRY RUN | 1 | 2014 | 1 | 2014 |
| CAT: CAT SSTRP | 2 | 2014 | 2 | 2014 |
| CAT: CAT WSESRB | 2 | 2014 | 2 | 2014 |
| CAT: CAT EDM2 Design Delivery 2 | 2 | 2014 | 2 | 2014 |
| CAT: CAT - EDM Demo | 3 | 2014 | 3 | 2014 |
| CAT: CAT EDM2 Design Delivery 3 | 4 | 2014 | 4 | 2014 |
| CAT: CAT - Milestone C | 4 | 2014 | 4 | 2014 |
| CAT: CAT - LRIP 1 | 1 | 2015 | 4 | 2016 |
| CAT: CAT EDM2 Design Delivery 4 | 2 | 2015 | 2 | 2015 |
| CAT: CAT EDM2 Design Delivery 5 | 4 | 2015 | 4 | 2015 |
| CAT: CAT - DT | 2 | 2016 | 3 | 2017 |
| CAT: CAT EDM2 Design Delivery 6 | 2 | 2016 | 2 | 2016 |
| CAT: CAT - LRIP 2 | 3 | 2016 | 3 | 2017 |
| CAT: CAT EDM2 Design Delivery 7 | 4 | 2016 | 4 | 2016 |