



Sandia National Laboratories



U.S. DEPARTMENT OF  
**ENERGY**

# Project Accomplishment Summary

Sandia National Laboratories is a multi-program laboratory managed and operated by Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.



**Sandia National Laboratories**

Operated for the U.S. Department of Energy by

**Sandia Corporation**

Albuquerque, New Mexico

## **PROJECT ACCOMPLISHMENTS SUMMARY**

### **Cooperative Research and Development Agreement (#1786.02.00) between Sandia National Labs and Northrop Grumman Corporation**

Note: This Project Accomplishments Summary will serve to meet the requirements for a final abstract and final report as specified in Article XI of the CRADA.

Title: Remote Sensing System

Final Abstract:

The purpose/objective of this project was to initiate technology transfer processes from Sandia National Laboratories (Sandia) to Northrop Grumman Aerospace Systems (NGAS). Sandia has domain expertise in Remote Sensing System design and technology which will be used by NGAS in the development of space and defense systems. This effort benefits all involved, including the public/taxpayers, by ensuring that legacy knowledge is not lost to future developments.

Background:

Sandia National Laboratories has domain expertise in Remote Sensing System design and technology. This project was initiated by NGAS to further their understanding of requirements and development/risk reduction of related supporting technologies. Sandia's expertise is complemented by system engineering expertise at NGAS.

Description:

The primary technical objective was to provide technical expertise to inform a Collection Segment SRR (System Requirements Review) owned/led by the CRADA partner. More specifically, tasks and deliverables involved Sandia reviewing documentation inputs from NGAS and providing feedback/reports to NGAS in three areas: (1) Collection segment CONOPS for calibration, (2) FPA risk reduction activities to include development/review of FPA requirements, capabilities assessment of FPA suppliers versus requirements, and recommended FPA characterization and testing, (3) Fiber Optic Transceiver requirements development, interface definition, and TRL assessment and risk reduction plan.

In general, objectives were met in all three areas:

- (1) NGAS provided a chart set documenting calibration CONOPS trades. SNL responded with a chart set, comments and updates via various telecons and email exchanges.
- (2) NGAS provided FPA requirements fliesheets for review. SNL responded with comments and updates via various telecons and email exchanges. TIMS with FPA vendors, as discussed in the CRADA did not go beyond the initial kickoff meeting during this period of performance.
- (3) NGAS provided a chart set documenting the fiber optic transceiver trade. SNL responded with a chart set, comments and updates via various telecons and email exchanges. NGAS has received customer direction to close this trade in favor of another option.

Key activities included a kickoff meeting with both teams at NGAS site and engagement with critical NGAS working groups across the collection segment team. Working relationships were established and continuing collaboration activities were defined and initiated under a separate PTS.

Benefits to the Department of Energy:

The information exchanged under this CRADA will benefit Sandia sensor program work, part of which is executed for NA-22, and is related to Sandia's core nuclear weapon mission. The system engineering processes that will be exercised and refined for this activity can be applied to a broad range of core Sandia programs.

Economic Impact:

There are anticipated benefits and economic gains for both industry and the taxpayer as a result of collaboration under this CRADA. Sandia's transfer of legacy expertise and knowledge to NGAS will save the nation reinvention costs, reduce risks and will ensure the application of lessons learned.

Project Status:

Project has been completed.

## ADDITIONAL INFORMATION

### Laboratory/Department of Energy Facility Point of Contact for Information on Project

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### Company Size and Points of Contact

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E-mail: [miti.patel@ngc.com](mailto:miti.patel@ngc.com)

### CRADA Intellectual Property

None

### Technology Commercialization

None

### Project Examples

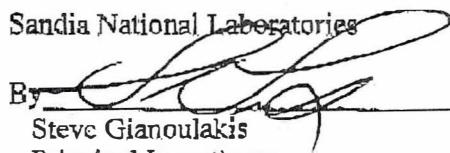
All deliverables are classified.

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Cooperative Research and Development Agreement (SC11/01786.02.00)

between Sandia National Laboratories and Northrop Grumman Corporation

This summary has been approved for public release by Sandia and Northrop Grumman Corporation

Sandia National Laboratories

By   
Steve Gianoulakis  
Principal Investigator

5/29/14  
Date

Sandia National Laboratories

By   
Manager  
WFO/CRADA Agreements

2.20.14  
Date

Northrop Grumman Corporation

By \_\_\_\_\_  
Title:

\_\_\_\_\_  
Date

In order to expedite the process, if we do not receive your signed reply by 07/02/2014  
we will assume your concurrence for the release of this document to the public.