Federal Aviation Administration

COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT

OVERVIEW

Technology Transfer Program
FAA William J. Hughes Technical Center
Atlantic City International Airport, NJ 08405

This publication is also available at:
http://faa.gov/go/techtran
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Introduction

This Overview provides a brief summary of technology transfer, describes the Cooperative Research and Development Agreement (CRDA) and its role in technology transfer, and outlines the procedures for developing a CRDA.

Technology Transfer and CRDAs

The goal of technology transfer is the sharing among federal laboratories, private industry, and academia to include not only technologies, but also personnel, facilities, methods, expertise, and technical information in general. A number of laws were enacted since 1980 to encourage technology transfer – the application of science and knowledge developed in one place and for one purpose (such as a federal laboratory) to some other place and purpose (such as the commercial sector) to enhance the competitive position of the United States in relation to those industrial nations in which government-industry-academia consortiums are commonplace. A CRDA is an agreement that commemorates the collaborative partnership between the federal laboratory/agency and academia, local and state governments, and private entities. These agreements provide agencies with a means to offer intellectual property rights and other federal resources that would otherwise not be available to a collaborating partner. Funds may come into the federal agency but no funds may be obligated by the federal agency under a CRDA. CRDAs must be collaborative and must be within the mission of the federal agency.

Developing CRDAs

As seen in Figure 1, three broad areas of knowledge are required as a foundation for developing CRDAs:

1. **CRDAs in Context** – Understanding the importance and goals of the FAA’s Technology Transfer Program and the agency’s strong commitment to its success.

2. **Designing CRDAs** – Understanding what a CRDA is, knowing how to develop the technical content of a CRDA, and understanding how to address the legal components of the CRDA – both the substantive negotiation over rights and responsibilities and the “boilerplate” legal components.

3. **Implementation** – Understanding the key players and their responsibilities at each stage and knowing how to get a CRDA started through the review process and administration.

Administration and Intellectual Property

Once the CRDA has been signed by the partners, the collaboration may begin. The CRDA will require administration in terms of financial obligations, reporting, modifications, and any other issues.

Intellectual property (IP) includes any products of the human intellect – such as inventions, discoveries, technologies, creations, developments, processes, or other forms of expressing an idea – whether or not the subject matter is protectable under the laws governing the different forms of intellectual property. IP can be a major issue in technology transfer.
FIGURE 1: KNOWLEDGE REQUIRED TO DEVELOP CRDAs

CRDA Knowledge Base

CRDAs in Context
Understand the main features of technology transfer and the functions of CRDAs.

Designing CRDAs
Understand what a CRDA is.
Know how to develop an Obligation of the Parties (OP) and convert it to the components of a CRDA.
Be aware of the patent and legal issues in CRDAs.

Implementing CRDAs
Know the key steps and players in implementing a CRDA.
Know how to get a CRDA started.
Conduct collaboration and administration of CRDA.
Section 1: An Overview of Technology Transfer
1.1 The Goals of Technology Transfer

Technology Transfer is a constellation of laws, programs, and mechanisms aimed at enhancing the U.S. position in the world marketplace.

Forms of Transfer

As defined in Figure 2, the Federal technology transfer policy encourages sharing and is designed to enable knowledge and technology developed in Federal laboratories to be transferred to other parties for other uses. Ideally, this process will result in the commercial use of this knowledge. Technology transfer may entail:

- **Scientific Dissemination** – Sharing information with interested parties in government, industry, or academia.

- **Direct Application** – Putting knowledge to work directly in the programs of the FAA or other agencies.

- **Commercial Transfer** – Sharing knowledge with other organizations, especially from industry, that can realize the commercial potential of new or improved technologies.

- **Importing Resources** – Bringing in outside technology in a cooperative effort to enhance FAA services.

Strategy

To ensure the success of technology transfer, several changes in Federal law and administrative policy have been implemented. To accelerate the development cycle, technology transfer laws have encouraged the use of innovative mechanisms of collaboration and cooperation (such as CRDAs) that can be developed and implemented much more rapidly than traditional contracts and procurements. Technology transfer laws also protect market-significant intellectual property (i.e., patents, copyrights, etc.) and the sharing of licenses, royalties, and other income from that property between the FAA and its partners.

Dynamics

Technology transfer may be responsive to market pull, in which a need or problem causes companies to seek a new technology to improve safety, curtail costs, or modify existing products. Technology transfer may also provide technology push, in which innovations and inventions create new markets and new “needs”. In either case, there is a need to get federally supported research and development (R&D) into the marketplace more efficiently and get industry into the “R&D pipeline” as early as possible.
Results

In these ways, the immense Federal investment in R&D will yield a much greater return – enabling the U.S. to compete more effectively in a highly competitive global economy.

FIGURE 2: DEFINITIONS AND GOALS

Technology Transfer Is...

The process in which technology or knowledge developed in one place and for one purpose is applied and exploited in another place for some other purpose.

From the FAA’s perspective, it means making federally-funded science and technology more responsive to the needs of the marketplace.

Goals of Technology Transfer Are...

To leverage the immense Federal R&D budget, thereby increasing the return on investment and enhancing American competitiveness in the world marketplace.
1.2 The History of Technology Transfer

Beginning in 1980, Congress initiated legislation that requires the Federal Government to work closely with the United States businesses and industry (particularly small businesses), academia, and state and local Governments to assist them in applying the knowledge, processes, and products that have been developed through Federal R&D programs at Federal laboratories with private sector funding. It is envisioned that through this technology transfer process, the benefits of national investment will assist the private sector productivity, create new industries and employment opportunities, improve public services, and enhance the competitiveness of the United States in world markets.

History

The following is a brief history of the Federal technology transfer legislation and related Executive Orders:

- **U. S. Constitution, Section 8 – Powers of Congress of the US Constitution**, in part states: “The Congress shall have the power: To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”

- **Executive Order 10096, Providing for a Uniform Patent Policy for the Government With Respect to Inventions Made by Government Employees and for the Administration of Such Policy (1950)**. Established federal policy that all rights to inventions made by government employees within the scope of their employment are assigned to the government.

- **Stevenson – Wydler Technology Innovation Act of 1980 (Public Law (P.L.) 96-48)**. This is the first of a continuing series of laws to define and promote technology transfer and committed the government to actively encourage technology transfer and named it as a central mission of Federal laboratories. It enabled funding and established an Office of Research and Technology Applications (ORTA) in each laboratory to coordinate and promote technology transfer.

- **Bayh-Dole Act of 1980 (P.L. 96-517)**. This Act, together with the Patent and Trademark Clarification Act of 1984 (P.L. 98-620), focused on the use of intellectual property (i.e., patents and licenses) to implement technology transfer by allowing small businesses, universities, and not-for-profit organizations to obtain title to inventions developed with federal funds.
• **Small Business Innovation Development Act of 1982 (P.L. 97-219).** This Act established the Small Business Innovation Research (SBIR) program, requiring agencies to provide special funds for small business R&D connected to the agencies’ missions.

• **Federal Technology Transfer Act of 1986 (P.L. 99-502).** Second major piece of technology transfer legislation that specified that all federal laboratory scientists and engineers consider technology transfer an individual responsibility and technology transfer activities are to be considered in employee performance evaluations; established the Federal Laboratory Consortium (FLC); enabled laboratories to enter into CRDAs; and to negotiate licenses for patented inventions made at the laboratory.

• **Executive Order 12591, Facilitating Access to Science and Technology (1987).** This Executive Order underscored the Government’s commitment to technology transfer, further encouraged federal laboratories and agencies to assist universities and private sector by transferring technical knowledge, and promoted commercialization of federally funded inventions.

• **Omnibus Trade and Competitiveness Act (1988) (P.L. 100-418).** This Act emphasized the need for public-private cooperation, established technology transfer centers for manufacturing technology, and established the National Institute of Standards and Technology (NIST) including making NIST the FLC’s host agency.

• **National Competitiveness Technology Transfer Act of 1989 (P.L. 101-189).** This Act expanded the use of CRDAs and increased nondisclosure provisions to third parties.

• **American Technology Preeminence Act of 1991 (P.L. 102-245).** This Act included intellectual property as potential contributions under CRDAs and allowed laboratory directors to give excess equipment to educational institutions and nonprofit organizations as a gift.

• **Small Business Research and Development Enhancement Act of 1992 (P.L. 102-564).** This Act extended and modified the SBIR program and established the Small Business Technology Transfer (STTR) program.

• **National Technology Transfer and Advancement Act of 1995 (P.L. 104-113).** This Act provides the collaborating partner the option to choose an exclusive or nonexclusive license for a resulting CRDA invention, the CRDA partner may retain title to an invention made solely by its employees, increased the annual limit of payment of royalties to laboratories to $150,000 per person, and permanently provided the FLC with funding from the agencies.
• **Technology Transfer Commercialization Act of 2000 (P.L. 106-404).** This Act streamlined the statutory licensing process, redefined what could be licensed, and provided authority for government agencies to in-license in order to “bundle” inventions for licensing purposes.

• **FAA Order 9550.6A: Technology Transfer Program (1995).** This Order defines in detail the FAA’s assignment of responsibilities for various phases of the FAA’s Technology Transfer Program, including its detailed policies affecting CRDA eligibility and handling of royalties. This Order also incorporated the Technology Transfer Awards Program and stipulated that the agency budget shall provide sufficient funding.
1.3 Overview of the FAA Technology Transfer Program

FAA Order 9550.6A defines the FAA's Technology Transfer Program which was developed in response to the series of technology transfer laws and orders that began with the Stevenson-Wydler Technology Innovation Act. The passages below summarize the most relevant material in the Order.

Policy

It is the FAA’s policy to:

- **Encourage dissemination of information** consistent with security requirements.

- **Promote sharing** of technology that advances the security and socioeconomic well-being of the United States.

- **Support coordination** among industry, academia, and government research and development activities through shared planning and facilities.

- **Protect and promote** the agency’s intellectual property.

Technology Transfer Program (Located at the FAA William J. Hughes Technical Center, Atlantic City International Airport, New Jersey)

The Technology Transfer Program (TTP) is responsible for encouraging and leading the technology transfer activity for the agency, encouraging broad-based participation, ensuring consistency with agency missions and regulations, and promoting the agency’s intellectual property. The TTP develops FAA policy and procedures regarding technology transfer; coordinates technology transfer activities while acting as the focus for the development of CRDAs; maintains CRDA and other technology transfer documentation; and ensures legal reviews of all agreements by the Office of Chief Counsel.

The TTP, whenever practicable, participates in and cooperates with the National Technical Information Service (NTIS), the FLC, various Federal programs, state and local governments, industry conferences, and any other activity that stimulates technology transfer of FAA knowledge, science and technologies.

Partners

Although the FAA will show preference for small businesses that will manufacture products substantially in the United States, CRDAs may be formed with other Federal agencies, state and local governments, industrial organizations, public
and private foundations, academia, nonprofit organizations, or other private industry.

Rights

The FAA may grant its partners patent licenses, assignments, or options in any invention made by a Federal employee under the agreement while retaining a nonexclusive, nontransferable, irrevocable, paid-up license to practice the invention throughout the world, by, or on behalf of, the Government and such other rights that the FAA deems appropriate.

Royalties

Royalty income on licensing agreements from inventions will be payable to the laboratory, and the TTP is responsible for recommending disbursements in accordance with legislation. Royalty income will be payable to the inventor(s) if they were employed by the agency at the time of the invention. The payments will continue for as long as the FAA continues to receive such income – regardless of the eventual employment status of the employee. If an invention is licensed for commercial use and royalty or other income results, the inventor(s) receives the first $2,000, up to $150,000 per year over and above their salary.

Technology Transfer Award Program

The TTP’s Technology Transfer Awards program is designed to monetarily reward and recognize FAA scientific, engineering, and technical personnel responsible for inventions, innovations, or other outstanding scientific or technology achievements that contribute to the mission of the FAA or the Federal Government. It provides an incentive to FAA personnel to participate in the TTP. The awards and their respective monetary values include: Intellectual Property Award (not to exceed (NTE) $5,000); Innovative Efforts (NTE $5,000); CRDA Award (NTE $5,000); Management Award (NTE $3,000); and Technology Transfer Assistance Award (NTE $3,000), and Awards Committee Award (NTE $1,000).

Report

As part of its responsibilities under the Stevenson-Wydler and Bayh-Dole Acts, the FAA’s TTP prepares an annual report that summarizes (among other matters) the number of agreements, amount of royalties and other income received by the agency, and the amount of awards paid to inventors.
Section 2: The Cooperative Research and Development Agreement
2.1 Purpose and Function of CRDAs

The CRDA is one of the principle mechanisms used by federal laboratories to engage in collaborative efforts with collaborating partners to achieve the goals of technology transfer. The CRDA commemorates the agreement of the parties.

Unique Agreement

The CRDA, which is not an acquisition, procurement, or grant, is designed to be a relatively easy mechanism to implement, requiring less time and effort to initiate than other methods for working with government organizations. CRDAs support the broader purpose of providing the means for a laboratory/agency to leverage its R&D efforts, consistent with the agency’s mission. CRDAs also encourage the creation of teams to solve technological and industrial problems for the greater benefit of the country.

Terms and Conditions

The CRDA is intended to take into account the needs and desires of the collaborating parties in terms such as confidentiality, rights to data and inventions, sharing of royalties, term of the agreement, and the Obligation of the Parties (OP). The OP establishes the nature of the partnership and identifies the background, purpose, expected outcomes, and obligations of each party within the partnership.

FAA May Provide

The FAA may provide engineers, scientists, or any other form of professional or clerical personnel; facilities and equipment (especially facilities that cannot be found in private industry and are necessary to the testing and development of aviation technology); intellectual property; or any other resources, with or without reimbursement. The FAA may provide anything but money to the collaborating partner.

Partner May Provide

In contrast, the collaborating partner may provide funds, as well as personnel, facilities, equipment, intellectual property, or any other resources consistent with the agency’s mission and the appropriate laws.

Confidentiality

CRDAs are sensitive to the needs of business organizations to protect commercially valuable information. Trade secrets or confidential information supplied by a partner shall not be disclosed. Trade secrets or privileged information that develops during the course of a CRDA can be protected from disclosure for up to five years.
Caution

A CRDA is not a procurement contract, grant, or cooperative agreement (as defined in U.S.C. 6303-6305). The CRDA shall not be used as a way to circumvent proper procurement procedures.

Principles

Federal researchers must keep in mind the two main principles for creating CRDAs:

• The subject partnership should be of strategic importance to the laboratory and any technology should have obvious value either commercially or for the public good

• The nature of the partnership is collaborative and within the mission of the agency.

Authority to Sign

The laboratory director of the FAA William J. Hughes Technical Center has the authority to sign CRDAs for the agency.
2.2 Ownership of Intellectual Property Developed in CRDAs

Technology Transfer encourages the sharing of information. To succeed, however, it must also protect commercially sensitive information. Moreover, for private industry and government inventors to be enthusiastic about technology transfer, there must be an economic incentive for both. The provisions for protecting intellectual property developed through CRDAs reassure industry and encourage individual inventors to participate.

Sharing Information

An essential part of technology transfer is the earliest possible sharing and publication of information, especially new technologies that might have commercial potential. The provisions to protect intellectual property developed through CRDAs reassure industry and encourage individual inventors to participate. In this way, both government and partner can see economic benefits to the collaborative research.

Protecting Information

Technology transfer legislation provides protection from the release of trade secrets or commercial or financial information that is privileged or confidential obtained or developed under a CRDA. Information for which a partner requests confidential protection should be clearly marked.

Financial Incentives

Starting in the mid-1970s and continuing through the 1980s, several federal laws were enacted that allowed government contractors to retain proprietary interest in their inventions. The CRDA emphasizes the negotiation of these rights so that the partner can profit from the project and not be forced to sacrifice its financial interest. In addition, the CRDA allows the financial returns to be distributed among the government, the partner, and the inventor(s).

The CRDA must protect proprietary knowledge and assign ownership of copyrights (especially software), patents (and their associated royalties), and any other potential income from the inventions or materials developed in the project.
Section 3: How to Develop a CRDA
3.1 Scenarios: Two Paths to a CRDA

CRDAs grow out of good professional relationships between the FAA initiator (Principal Investigator (PI)) and a Collaborating Partner (CP). CRDAs can be FAA-initiated or by another entity, such as an educational institution, state and local government, or private industry.

Relationship

The scenarios described below require a trusting relationship between the FAA and its partners. There must be reason to believe that the promises in the agreement will be kept, and nothing in the agreement can appear legally actionable to other parties.

FAA Initiated

Most CRDAs begin when FAA personnel (i.e., the PI) perceive one of the following three opportunities:

1. **Industry Resource.** The PI determines that the industry has unique resources needed to develop an FAA technology or idea. In this case, sharing the resources will lead to mutual benefits for the FAA and its partner.

2. **Technology Push.** The PI has an idea or technology so new and original that there is not yet a market demand. (The market can only demand what it can imagine.) In this case, the FAA inventor must find an industry partner who will eventually stimulate a market demand for the product or technology. Naturally, secrecy is especially important in such projects.

3. **Market Demand.** The PI believes that a laboratory invention or idea has commercial potential in the aviation industry and that this potential will be evident as soon as the invention is announced. In other words, the market is already prepared and eager for this innovation. In this case, the PI needs a business (or other enterprise) that will enable the invention to become a marketable commercial product. Thus, the PI identifies a partner (the law favors small, U.S. firms) with the right resources and industry position to advance the invention.

Partner Initiated

A partner may have begun a research project or developing a product, but believes that a government laboratory has unique resources that could ensure the success of the product or research. Possibly the resources are so unique that the product development or research cannot be completed without government cooperation.
Or, the partner believes that it would be more cost-effective to have access to the government laboratory/agency and unique resources to participate. Finally, it might also be possible that the partner will specifically look for federal technology merely for the purpose of acquiring a license and marketing a product.
3.2 CRDA Process Overview

The CRDA process begins with the preparation of the nature of the partnership known as the OP and progresses through a series of reviews into a full-blown agreement.

**Step 1**

In Step 1, the CRDA is conceived, and the PI negotiates the OP with the CP. The output of this Step is the OP and other technical agreements. This is reviewed by the TTP.

**Step 2**

In Step 2, the TTP provides a username and password to the PI to input the appropriate data into the CRDA PI Database, and the PI inputs the data into the Database. The TTP prepares a draft CRDA, which is then reviewed by the PI and CP. Comments from the PI and CP are incorporated into the CRDA and the TTP forwards the document for legal review.

**Step 3**

In Step 3, the General Counsel negotiates the remaining legal-related comments with the CP. The final negotiated wording is forwarded to the TTP.

**Step 4**

In Step 4, a refined, final version is written and distributed for appropriate signatures – including those of the designated PI manager, the CP, and the Director of the laboratory.

**Step 5**

In Step 5, the TTP distributes copies to the appropriate parties and announces the partnership.

**Step 6**

In Step 6, the TTP administers the CRDA by tracking the progress of the work via reports to ensure the CRDA is properly implemented and documented, amends the CRDA for any changes to the terms and conditions, assists with the IP-related issues, processes close-out once the CRDA is complete, and maintains permanent records of the partnership.
Appendix A: Model Cooperative Research and Development Agreement
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT

0 -CRDA-

Between

And

THE FEDERAL AVIATION ADMINISTRATION
WILLIAM J. HUGHES TECHNICAL CENTER

This Cooperative Research and Development Agreement (CRDA), dated ________________ is entered into by and between (hereinafter referred to as “Collaborating Party”), and the United States of America, as represented by the Federal Aviation Administration (FAA), William J. Hughes Technical Center (hereinafter referred to as “Technical Center”), located at the Atlantic City International Airport, New Jersey.

SECTION A: DESCRIPTION

A description and purpose of this collaborative partnership is [a description of the research project proposed and the purpose of the CRDA is to be entered here].

SECTION B: TERM

The term of this Agreement is for a period of __________ months, commencing on the Effective Date of this Agreement, unless otherwise modified pursuant to Article 6 – Modifications, Extensions, Disputes, and Terminations.

SECTION C: PRINCIPAL INVESTIGATOR

The FAA agrees to assign a substantial portion of the work to be performed pursuant to Appendix A – Obligation of the Parties (OP) to this Agreement to __________, as Principal Investigator (PI). The work for the Collaborating Party will be performed under the supervision of __________, as PI.

SECTION D: FINANCIAL OBLIGATION

The FAA will not provide any funds to the Collaborating Party under this Agreement.

SECTION E: TITLE TO PROPERTY

All capital equipment developed, acquired, and paid for under this Agreement by the FAA shall be the property of the FAA, except that title to the items of capital equipment
listed below provided to the FAA by the Collaborating Party or acquired by the FAA with
funds supplied by the Collaborating Party shall remain or vest in the Collaborating Party:

[TBD]

SECTION F: AGREEMENT

permits the Secretary of Transportation to authorize the Director of the Technical Center
to enter into this CRDA consistent with that Act, associated Executive Orders,
departmental regulations and agency policies.

Article 1. Definitions

As used in this Agreement, the following terms shall have the following meanings:

1.1 The term “Agreement” means this CRDA.

1.2 The term “Cooperative Research and Development Agreement” (CRDA) means
any agreement between one or more Federal laboratories and one or more non-Federal
parties under which the Government, through its laboratories, provides personnel,
services, facilities, equipment, intellectual property, or other resources with or without
reimbursement (but not funds to non-federal parties), and the non-Federal parties
provide funds, personnel, services, facilities, equipment, intellectual property, or other
resources toward the conduct of specified research or development efforts which are
consistent with the mission of the laboratory; except that such term does not include a
procurement contract or cooperative agreement as those terms are used in 31 U.S.C.
§§6303, 6304, and 6305 nor does such term include “other transactions,” as that term is

1.3 The term “Cooperative Research and Development Program” means the research
and development work or effort as defined in the OP in Article 2.1 – Obligation of the
Parties and Appendix A – Obligation of the Parties.

1.4 The term “Created” in relation to any copyrightable software work means the work is
fixed in any tangible medium of expression for the first time, as provided for at 17 U.S.C.
§101.

1.5 The term “Effective Date” means the date on which the Director of the Technical
Center signs the Agreement.

1.6 The term “Field of Use” refers to a license in which the license rights may be divided
among various markets, applications, use, or product distinctions.

1.7 The term “Invention” means any invention or discovery that is or may be patentable
or otherwise protected under Title 35 of the U.S.C. or any novel variety of plant which is
or may be protected under the Plant Variety Protection Act (7 U.S.C. §2321 et seq.).

1.8 The term “Made” in relation to any Invention means the conception or first actual
reduction to practice of such Invention.
1.9 The term “Principal Investigator” (PI) means the person designated respectively by each Party to this CRDA who will be responsible for the scientific and technical conduct of the research or collaboration.

1.10 The term “Proprietary Information” means information which could provide a competitive advantage to the party possessing such information and which either embodies trade secrets developed at private expense and outside of any Government contract or is confidential technical, business or financial information provided that such information:

   a. is not generally known, or is not available from other sources without obligations restricting its disclosure;
   b. has not been made available by the owners to others without obligation restricting its disclosure;
   c. is not described in an issued patent or a published copyrighted work or is not otherwise available to the public without obligation restricting its disclosure; or
   d. can be withheld from disclosure under 15 U.S.C. §3710a(c)(7)(A) & (B) and the Freedom of Information Act (FOIA), 5 U.S.C. §552 et seq.; and
   e. is identified as such by labels or markings designating the information as proprietary.

1.11 The term “Sensitive but Unclassified Information” (SUI) means unclassified information in any form including print, electronic, visual, or aural forms that the FAA must protect from uncontrolled release to persons outside the FAA and indiscriminate dissemination within the FAA. It includes aviation security, homeland security, and protected critical infrastructure information. SUI may include information that may qualify for withholding from the public under the FOIA. SUI information must be handled in accordance with DOT FAA Order 1600.75 – Protecting Sensitive Unclassified Information (SUI).

1.12 The term “Special Purpose License” means a license to the Government conveying a nonexclusive, nontransferable, irrevocable, worldwide, royalty-free license to practice and have practiced an Invention for or on behalf of the Government for research or other government purposes and conveying a nonexclusive, nontransferable, irrevocable, worldwide, royalty-free license to use, duplicate, prepare derivative works, distribute or disclose copyrighted works or Proprietary Information in whole or in part and in any manner, and to have or permit others to do so, for research or other government purposes. Research or other government purposes include competitive procurement, but do not include the right to have or permit others to practice an Invention or use, duplicate, prepare derivative works, distribute or disclose copyrighted works or Proprietary Information for commercial purposes.

1.13 The term “Subject Data” means all recorded information first produced in the performance of this Agreement, excluding Proprietary Information.

1.14 The term “Subject Invention” means any Invention Made in the performance of work under this Agreement.
Article 2. Cooperative Research and Development Program

2.1 Obligation of the Parties. The cooperative research and development effort performed under this Agreement shall be performed in accordance with Appendix A – Obligation of the Parties (OP). The utilization of the FAA’s personnel, resources, facilities, equipment, skills, know-how, computer software and information will be consistent with its own policies, missions, and requirements. It is understood that the nature of this cooperative effort is such that completion within the period of performance specified, or within the limits of financial support allocated, cannot be guaranteed. Accordingly, it is agreed that all collaboration is to be performed on a best efforts basis.

2.2 Review of Work. Periodic conferences or on-site visits may be held, when deemed necessary by both parties, between personnel of the FAA and the Collaborating Party for the purpose of reviewing the progress of work defined in the OP.

2.3 Work Performed by Contractors on Behalf of FAA. If the FAA wishes to utilize a contractor to perform certain work to fulfill FAA’s obligations under this Agreement, the FAA shall provide the Collaborating Party a minimum of thirty (30) days advance notice prior to utilizing a contractor to perform such work. The Collaborating Party understands and agrees that the Government may not be able to offer the Collaborating Party the option to an exclusive license for a pre-negotiated field of use in a Subject Invention, as described in Section G – Intellectual Property of this Agreement, if a contractor makes, solely or jointly, such Subject Invention under this Agreement. (37 C.F.R. Section 401.14(c)).

Article 3. Reports

3.1 Quarterly and Final Reports. The FAA and Collaborating Party shall prepare and submit quarterly and final reports. These reports shall follow the guidelines in Appendix B – Report Format. All of the cooperative research and development activities and accomplishments will be recorded in a final report. The draft final report will be prepared and submitted by the Collaborating Party for FAA review 60 days prior to the expiration of this Agreement. The FAA will provide review comments within 30 days of receipt. The Collaborating Party will incorporate any FAA comments and submit the final report on or before the expiration date of this Agreement. Copies of any reports shall be distributed in accordance with Article 15 - Notices.

3.2 Technical Notes and Data Reports. Technical notes and data reports shall be formatted as mutually agreeable between the parties.

Article 4. Publicity, Use of Name, and Endorsement

4.1 Use of FAA Name Prohibited. The Collaborating Party shall not use the name of the FAA on any product or service which is directly or indirectly related to either this Agreement or any patent license or assignment Agreement which implements this Agreement without the prior approval of the FAA.

4.2 No Endorsement by FAA. By entering into this Agreement, the FAA does not directly or indirectly endorse any product or service provided, or to be provided, by the Collaborating Party, its successors, assignees, or licensees. The Collaborating Party
shall not in any way imply that this Agreement is an endorsement by the FAA of any such product or service.

**Article 5. Publication**

5.1 **Consultation.** The FAA and the Collaborating Party agree to confer and consult with each other prior to publication or other public disclosure of the results of work under this Agreement to ensure that no Proprietary Information, SUI, or military critical technology is released. Furthermore, prior to submitting a manuscript for publication or before any other public disclosure, each party will offer the other party ample opportunity to review such proposed publication or disclosure to submit objections.

5.2 **Objections.** If either party objects to the publication, the publication is not made until the dispute is resolved pursuant to Article 6.4 - Disputes.

**Article 6. Modifications, Extensions, Disputes, and Terminations**

6.1 ** Modifications.** If either party desires a modification in this Agreement, the parties shall, upon reasonable notice of the proposed modification by the party desiring the change, confer in good faith to determine the desirability of such modification. Such modification shall not be effective until a written modification is signed by all the parties hereto by their representatives duly authorized to execute such modification.

6.2 **Scope Change.** If at any time either PI determines that the research data dictates a substantial change in the direction of the work, they shall promptly notify the other party, and the parties shall make a good faith effort to agree on any necessary modification to the OP. Any substantial modification in the direction of work will be executed pursuant to this Article and will be formalized by a mutual agreement and a modification to the OP that specifies the new work to be performed.

6.3 **Extensions.** Extensions of the term of this Agreement may be made prior to the expiration of the Agreement without the need for additional review beyond that of the Director of the Technical Center. If the parties wish to continue the work called for under the OP after the expiration of this Agreement, they may enter into a new CRDA.

6.4 **Disputes.** The Collaborating Party and the FAA recognizes that disputes arising under this Agreement are best resolved at the local working level by the parties directly involved. Both parties are encouraged to be imaginative in designing mechanisms and procedures to resolve disputes at this level.

6.5 **Continuation of Cooperative Research Pending Resolution.** Pending the resolution of any dispute under this Article, work under this Agreement will continue as elsewhere provided herein; provided, however, if such dispute is not resolved within sixty (60) days of the onset of such dispute, either party may terminate this Agreement pursuant to Article 6.6 – Termination.

6.6 **Termination.** Either party may terminate this Agreement upon delivery of written notice at least ninety (90) days prior to such termination. Each party shall bear its own costs resulting from or related to the termination.
6.7 **Obligations Surviving Termination.** Termination of this Agreement by either party for any reason shall not affect the rights and obligations of the parties accrued prior to the Effective Date of termination of this Agreement. No termination of this Agreement, however effectuated, shall release the parties hereto from their rights, duties, and obligations under this Agreement.

**Article 7. Independent Entities**

Independent Entities. The parties to this Agreement are independent entities and are not agents of each other, joint ventures, partners, or joint parties to a formal business organization of any kind. Neither party is authorized nor empowered to act on behalf of the other with regard to any contract, warranty, or representation as to any matter, and neither party will be bound by the acts or conduct of the other. Each party will maintain sole and exclusive control over its own personnel and operations.

**Article 8. Representations and Warranties**

8.1 **No Warranty.** Except as specifically stated below, the FAA and the Collaborating Party make no express or implied warranty as to any matter whatsoever, including the conditions of the research or any Invention or product, whether tangible or intangible, Made or developed under this Agreement, or the ownership, merchantability, or fitness for a particular purpose of the research or any Invention or product.

8.2 **Representations and Warranties of the FAA.** The FAA hereby represents and warrants to the Collaborating Party as follows:

8.2.1 **Mission.** The performance of the activities specified by this Agreement is consistent with the mission of the FAA.

8.2.2 **Authority.** All prior reviews and approvals required by regulations or law have been obtained by the FAA prior to the execution of this Agreement.

8.2.3 **Statutory Compliance.** The FAA, prior to entering into this Agreement, has (1) given special consideration to entering into CRDAs with small business firms and consortia involving small business firms; (2) has given preference to business units located in the United States which agree that products embodying Subject Inventions Made under the Agreement or produced through the use of such Subject Inventions will be manufactured substantially in the United States; and, (3) in the event this Agreement is made with an industrial organization or other person subject to the control of a foreign company or Government, taken into consideration whether or not such foreign Government permits United States agencies, organizations, or other persons to enter into CRDAs and licensing agreements with such foreign country.

8.3 **Representations and Warranties of the Collaborating Party.** The Collaborating Party hereby represents and warrants to the FAA as follows:

8.3.1 **Corporate Organization.** The Collaborating Party, as of the date hereof, is a corporation duly organized, validly existing and in good standing under the laws of the State of [TBD].
8.3.2 Statement of Ownership. The Collaborating Party is neither foreign controlled nor a subsidiary of a foreign controlled entity.

8.3.3 Power and Authority. The Collaborating Party has the requisite power and authority to enter into this Agreement and to perform according to the terms thereof.

8.3.4 Due Authorization. The Board of Directors and shareholders of the Collaborating Party have taken all actions required to be taken by law, the Collaborating Party’s Certificate or Articles of Incorporation, its bylaws or otherwise, to authorize the execution and delivery of this Agreement.

8.3.5 No Violation. The execution and delivery of this Agreement does not contravene any material provision of, or constitute a material default under any material Agreement binding on the Collaborating Party or any valid order of any court, or any regulatory agency or other body having authority to which the Collaborating Party is subject.

8.3.6 Change in Collaborator Status. The Collaborating Party agrees to notify the FAA within thirty (30) days should it become subject to the control of a foreign company or government at any time during this Agreement, or if any other change occurs relevant to this Agreement.

Article 9. Liability

9.1 Tort Liability of Government. The U.S. Government shall only be liable for those tortious acts for which relief is available pursuant to the Federal Tort Claims Act, 28 U.S.C. §2671 et seq.

9.2 Personal Injury and Damage to Property. The Collaborating Party agrees to save and hold harmless the Government, its officers, agents, and employees from liability of any nature or kind, including costs and expenses, for, or on account of, any or all suits or damages of any character whatsoever resulting from injuries or damages sustained by any person or persons or property by virtue of negligence on the part of the Collaborating Party, its officers, agents, and employees in the performance of this Agreement.

9.3 Indemnification. The Collaborating Party holds the U.S. Government harmless and indemnifies the Government for all liabilities, demands, damages, expenses, and losses arising out of the use by the Collaborating Party, or any party acting on its behalf or under its authorization, of the FAA’s research and technical developments or out of any use, sale, or other disposition by the Collaborating Party, or others acting on its behalf or with its authorization, of products Made by the use of the FAA’s technical developments. This provision shall survive termination of this Agreement.

9.4 Disposal of Toxic or Other Waste. The Collaborating Party shall be responsible for the removal from the FAA property of any and all toxic or other material used, provided, or generated in the course of performing this Agreement. The Collaborating Party shall obtain at its own expense all necessary permits and licenses as required by local, state, and Federal law and shall conduct such removal in a lawful and environmentally responsible manner.
Article 10. Force Majeure

Neither party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such party, which causes such party to be unable to perform its obligations under this Agreement (and which it has been unable to overcome by the exercise of due diligence), including, but not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning, and other natural catastrophes, epidemic, war, riot, civil disturbance, or disobedience, strikes, labor dispute, or failure, threat of failure, or sabotage, or any order or injunction made by a court or public agency. In the event of the occurrence of such a force majeure event, the party unable to perform shall promptly notify the other party. It shall further use its best efforts to resume performance as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

Article 11. Miscellaneous

11.1 No Benefits. No member of, or delegate to, the United States Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, nor to any benefit that may arise there from; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

11.2 Governing Law. The construction, validity, performance, and effect of this Agreement for all purposes shall be governed by the laws applicable to the Government of the United States.

11.3 Entire Agreement. This Agreement constitutes the entire Agreement between the parties concerning the subject matter of this Agreement.

11.4 Headings. Titles and headings of the Sections and Subsections of this Agreement are for the convenience of references only and do not form a part of this Agreement and shall in no way affect the interpretation thereof.

11.5 Waivers. None of the provisions of this Agreement shall be considered waived by any party hereto unless such waiver is given in writing to all other parties. The failure of any party to insist upon strict performance of any of the terms and conditions hereof, or failure or delay to exercise any rights provided herein or by law, shall not be deemed a waiver of any rights of any party hereto.

11.6 Severability. The illegality or invalidity of any provisions of this Agreement shall not impair, affect, or invalidate the other provisions of this Agreement.

11.7 Assignment. Neither this Agreement nor any rights or obligations of any party hereunder shall be assigned or otherwise transferred by either party without the prior written consent of the other party.

11.8 Export Controls. Information and/or products developed pursuant to this Agreement may contain information for which export is restricted by the Arms Export Control Act (22 U.S.C. §2751, et seq.), the Export Administration Act (50 U.S.C. App 2401 et seq.), or other applicable export control laws and regulations. Nothing in this Agreement shall be construed to permit any disclosure in violation of those restrictions.
SECTION G: INTELLECTUAL PROPERTY

Article 12. Patents

12.1 Prior Patents of the Collaborating Party. The following inventions of the Collaborating Party are the subject of pending patent applications or are disclosed in issued patents:

[List any inventions that meet the description above]

12.2 Reporting of Inventions. The FAA shall promptly report to the Collaborating Party each Subject Invention reported to the FAA by its employees. The Collaborating Party shall promptly disclose to the FAA each Subject Invention reported to the Collaborating Party by any of its employees. Each party shall provide the other party with copies of the patent applications it files on any Subject Invention along with the power to inspect and make copies of all documents retained in the official patent application files by the applicable patent office, except as may be prohibited by 35 U.S.C. §181 relating to Inventions affecting national security.

12.3 Rights in Subject Inventions

12.3.1 Subject Inventions Made by Government Employees. The Technical Center, on behalf of the U. S. Government, shall retain title to each Subject Invention made by its employees.

12.3.1(a) The FAA may agree to grant to the Collaborating Party, for reasonable compensation when appropriate, licenses or assignments, or options thereto, to any Subject Invention Made in whole or in part by a federal employee of the FAA. In addition, the Collaborating Party, for reasonable compensation, shall have an option to choose an exclusive license in the following specific field of use:

[The specific field of use will be entered here]

In consideration for the Government’s contribution, this paragraph shall be subject to the conditions set forth in 15 U.S.C. §3710a(b)(1)(A), (B) & (C).

12.3.2 Subject Inventions Made by the Collaborating Party. The Technical Center, on behalf of the U. S. Government, agrees that the Collaborating Party shall retain title to any Subject Invention made solely by its employees under this Agreement. The Collaborating Party shall disclose each Subject Invention to the Technical Center within 2 months after the inventor discloses it in writing to the Collaborating Party, or, if earlier, within 6 months after the Collaborating Party becomes aware that a subject invention has been made.

12.3.2(a) The Collaborating Party hereby grants to the Government, in advance, a Special Purpose License in any Subject Invention Made by the Collaborating Party employees under this Agreement to practice or have practiced throughout the world by or on behalf of the Government each invention made in whole or in part by its employees under this Agreement.

12.3.2(b) In the exercise of such license, the Government shall not publicly disclose trade secrets or commercial or financial information that is privileged or
confidential within the meaning of 5 U.S.C. §552(b)(4) or which would be considered as such if it had been obtained by a non-federal party.

12.3.3 Joint Inventions. The Technical Center, on behalf of the U. S. Government, agrees that the Collaborating Party shall have the first option to retain title to each Subject Invention made jointly by FAA and Collaborating Party employees.

12.3.4 Subject Inventions Made by Contractor Employees and Other Third Parties. In some cases, contractor personnel support Government employees in the various activities at the FAA including supporting Government personnel engaged in a CRDA. If a Subject Invention is Made by support contractor personnel, the rights of the support contractor are determined by the contract between the support contractor and the Government. It may be that the Government is not authorized to grant any rights in such Inventions to the Collaborating Party under this Agreement. (37 C.F.R. Section 401.14(c)).

12.3.4(a) The Collaborating Party shall have no rights in any inventions made by third parties, except as provided by separate agreement between the Collaborating Party and such third party. Such separate agreement regarding rights in inventions shall not denigrate any rights allocated by this Agreement between the Collaborating Party and the U. S. Government. Should an invention be made jointly by an employee of the U. S. Government, and one or more third parties and not by any employee of the Collaborating Party, the Collaborating Party shall have no rights in any such invention except as provided by separate agreement among all inventors or their assignees. Should an invention be made jointly by employees of the U. S. Government the Collaborating Party and any third parties, all joint inventors, or their assignees, agree to negotiate such cross licenses as may be necessary to effect the maximum commercialization of the invention.

12.4 License Agreements. Each license by either party shall be memorialized in a written instrument that establishes and confirms the rights that the Government has acquired in the Subject Invention. This License Agreement shall be in a form acceptable to both parties.

12.5 Filing Patent Applications. Subject to negotiation, the Collaborating Party shall have the first option to file a joint patent application on any Subject Invention Made under this Agreement, which option shall be exercised by giving notice in writing to the FAA and by filing a patent application in the U.S. Patent and Trademark Office (USPTO) within six (6) months after written notice is given. If the Collaborating Party elects not to file or not to continue prosecution of a patent application on any such Invention in any country or countries, the Collaborating Party shall notify the FAA thereof at least three (3) months prior to the expiration of any applicable filing or response deadline, priority period or statutory bar date. In any country in which the Collaborating Party does not file, or does not continue prosecution of, or make any required payment on, an application or patent on any such Invention, the FAA may file, or continue prosecution of, or make any required payment on, an application or patent. The Collaborating Party then assigns to the FAA whatever right, title and interest the Collaborating Party has in and to such Invention.

12.6 Government Interest. Any patent application filed on any Subject Invention Made under this Agreement shall include in the patent specification thereof the statement:
“This invention was made in the performance of a Cooperative Research and Development Agreement No. _____ with the Federal Aviation Administration, Department of Transportation. The Government of the United States has certain rights to use the invention.”

12.7 March-In Rights. The Government may require the Collaborating Party to grant licenses in subject inventions under the exceptional circumstances identified at 15 U.S.C. 3710a(b)(1)(B and C).

12.8 Patent Expenses. Unless otherwise agreed, the party filing an application shall pay all patent application preparation and filing expenses and issuance, post issuance and patent maintenance fees associated with that application. Any party having an obligation to pay a maintenance fee who decides not to pay such expenses shall so notify the other party of that decision in sufficient time to permit the other party to preserve its interest in the patent.

12.9 Patent Cooperation. Both parties agree to cooperate in executing all necessary documents and obtaining cooperation of its employees in executing such documents related to such application or patent.

Article 13. Copyrights

13.1 Ownership of Copyright. The Collaborating Party shall have the right to copyright all software (including modifications and enhancements thereto), documentation, and other works created in whole or in part by the Collaborating Party under this Agreement. The Collaborating Party shall mark any such works with a copyright notice showing the Collaborating Party as the author or co-author and shall in its reasonable discretion determine whether to file applications for registration of copyright. Should the Collaborating Party choose not to retain ownership of the copyright in any such software, it will execute an assignment of the copyright to the U.S. Government. The Government, as represented by the FAA, agrees to license such software to the Collaborating Party on terms acceptable to the parties.

13.2 Copyright Notice. The Collaborating Party will clearly mark all copyrighted software or other works provided to the Government with appropriate notices.

13.3 No License to Government. Except as to computer software that is a Subject Invention, the Government acquires no license in any copyrighted computer software developed under this Agreement. Title to software developed by the Collaborating Party exclusively at private expense shall remain in the Collaborating Party. Rights in patentable computer software are covered in Article 12 - Patents, above. The Government, however, is not precluded from negotiating for rights in copyrighted works, including computer software, created or developed under this Agreement.

Article 14. Proprietary Information

14.1 Ownership of Proprietary Information. Subject to Articles 12 - Patents and 13 - Copyrights, the Collaborating Party shall own all Proprietary Information that it solely developed under this Agreement. The Collaborating Party hereby grants to the Government “limited rights” in all technical data and “restricted rights” in all computer software that it developed at private expense under this Agreement. Those rights
described as “limited rights” and “restricted rights” may be found at 48 C.F.R. 52.552-14(g)(3) and (g)(4), respectively. No other rights are granted except as may be provided under this CRDA.

14.2 Proprietary Notice. The parties will mutually develop an appropriate proprietary notice(s) for use in connection with this Agreement. The parties agree to cooperate in removing or remarking any information marked as Proprietary Information which ceases to be Proprietary Information for reasons set forth in Article 1.10 – Definitions or because the information was publicly disclosed in a patent, copyrighted work, or as may be required by law.


14.3.1 Proprietary Information Developed by the Collaborating Party. The Government shall not disclose any trade secret or commercial or financial information that is privileged or confidential under the meaning of §552(b)(4) of Title 5 of the United States Code that is obtained from or solely developed by the Collaborating Party in the course of performing work under this Agreement.

14.3.2 Jointly Developed Proprietary Information. The Government shall not disclose any trade secret or commercial or financial information that is privileged or confidential under the meaning of §552(b)(4) of Title 5 of the United States Code that is developed solely by the Government, or jointly by the Government and the Collaborating Party, in the course of performing work under this Agreement for a period of 5 years after the date of development of such Proprietary Information.

SECTION H: NOTICES AND CERTIFICATION

Article 15. Notices

Notices, communications, and payments hereunder shall be deemed made if given postage prepaid and addressed to the party to receive such notice, communication or payment at the address given below, or such other address as may hereafter be designated by notice in writing.

A. Formal notices under this Agreement shall be addressed as follows:

FAA:

Name: John Hensyl, AJP-7C3
Technology Transfer Program Manager

Address: Federal Aviation Administration
William J. Hughes Technical Center
Atlantic City International Airport
New Jersey  08405

Telephone:  (609) 485-7140
Collaborating Party

Name: 
Address: 

Telephone: ( )

B. Correspondence relating to technical matters and reports should be addressed as follows:

**FAA:**

Name: 
Address: FAA 

Telephone: 

With copies to:

Name: John Hensyl, AJP-7C3 
Technology Transfer Program Manager 
Address: Federal Aviation Administration 
William J. Hughes Technical Center 
Atlantic City International Airport 
New Jersey  08405 
Telephone: (609) 485-7140 

**Article 16. Certification**

16.1 **Review.** One copy of this document must be presented to an authorized official of the FAA for review. Receipt of this document by such authorized official will begin a thirty (30) day period during which the Agreement may be disapproved or modification required. If no notice of disapproval or required modification is received from the authorized official during the review period, this Agreement shall enter into effect as of the date of the signature of the Director of the Technical Center.
16.1.1 **Ratification.** In the event that the authorizing official of the FAA exercises the authority reserved by Article 16.1 - Review, the Collaborating Party shall have thirty (30) days from notification of the required modifications to ratify the modifications or terminate the Agreement.

16.2 **Certification.** This Agreement has been received by . The effort called for under this Agreement is consistent with the mission of the FAA and the participation by the FAA in this Agreement is endorsed and supported by the Division.

_________________________________________________________________
FAA,

DATE: ____________________________________________

**IN WITNESS THEREOF,** the Parties have caused this Agreement to be executed in duplicate by their duly authorized representatives as follows:

CP .

BY: ____________________________________________

NAME: 

TITLE: 

DATE: __________________

FAA William J. Hughes Technical Center

BY: ____________________________________________

NAME: Wilson N. Felder

TITLE: Director

DATE: __________________
APPENDIX A

OBLIGATION OF THE PARTIES

Background

Objective and Plan

The objectives of this Agreement are

Expected Results

The Expected Results of this Agreement are

Outputs

The Outputs of this Agreement are

Constraints

To the extent possible, cooperative test activities will be scheduled by mutual agreement. However, there may be times when either party has schedule constraints, which may not be agreeable to the other party. All cooperative efforts will be proposed in writing and will be executed upon mutual agreement by both parties, subject to availability of resources.

[any additional constraints will be added here]

Obligations of the FAA:

The FAA will provide

Obligations of:

The Collaborating Party will provide
APPENDIX B – REPORT FORMAT

QUARTERLY PROGRESS REPORT

CRDA #: 0 -CRDA- Quarterly Report # _____ Date: ______

Subject:

PI: ____________________

Routing Symbol: _________ Phone: ____________________

Effective Date: ________________ Expiration Date: _________

Collaborating Party:

STATUS:
(Brief narrative)

Check appropriate box:
☑ Will complete on time
☑ Will require more time (only)
☑ Will require more time and minor change in Obligations of the Parties (OP)
☑ Will require major change in OP
☑ Will complete on time and extend activities under a new CRDA
☑ Other: ____________________________
Prepare a brief narrative report discussing the highlights of the project. Address the following topics (use additional pages if necessary).

**Successes** (How the project met or exceeded its objectives):

**Shortcomings** (Disappointments, limitations, shortfalls):

**Continuing Activities** (Follow-on work; other research; additional agreements):

**Intellectual Property** (status of patent applications, patents, licenses, etc.):

**Technology Transfer Applications** (Commercial applications, markets, etc.):
Points of Contact and Websites

Points of Contact:

John Hensyl, Technology Transfer Program Manager
Technical Strategies and Integration Group, AJP-7C3
William J. Hughes Technical Center
Atlantic City International Airport, N. J. 08405
609-485-7140
609-204-0050 (C)
609-485-4364 (F)
609-485-4558 (F)
john.hensyl@faa.gov

Marie Denan, Program Analyst, CRDA Administrator
Technical Strategies and Integration Group, AJP-7C3
William J. Hughes Technical Center
Atlantic City International Airport, N. J. 08405
T (609) 485-5276
F (609) 485-4558
marie.denan@faa.gov

Websites:

http://www.faa.gov
http://faa.gov/go/techtran