

7. N. R. Basavanhally, C. A. Bolle, P. Kolodner, R. R. Ruel, and J. D. Weld, "Precision two dimensional optical fiber array", US patent number 6,827,500, issued December 7, 2004.
8. M. S. Hodes, P. Kolodner, T. N. Krupenkin, W. Lee, A. M. Lyons, T. R. Salamon, J. A. Taylor, and D. P. Weiss, "Techniques for microchannel cooling", US patent number 7,204,298, issued April 17, 2007.
9. C. A. Bolle, M. S. Hodes, and P. Kolodner, "Thermal management for shielded circuit packs", US patent number 7,254,034, issued August 7, 2007.

*Synergistic Activities.*

Participating in Photonic Integrated Circuit (PIC) development: providing optical characterization of fiber-optic devices; performing thermal evaluation of thermoelectric modules for device cooling.

Collaborating on performance evaluation of three-dimensional heat sink structures, flexible thermal connections, and thermal-interface materials.

# Resume – William Scofield

## *Education and Training.*

College of DuPage, Associate in Science, 1994

Illinois Institute of Technology, Mechanical and Aerospace Engineering, B. S., 1997

Illinois Institute of Technology, Mechanical and Aerospace Engineering, M. S., 1999

## *Professional Experience.*

1996 – present: Member of Technical Staff, Alcatel-Lucent, Inc. Corporate Subject Matter Expert in customer site reliability, thermal efficiency, and reduction of environmental control expenses; environmental disaster assessment; circuit board and system (frame) level electronic equipment reliability improvement; lab manager with responsibility for operations, testing, purchase of equipment, and test procedures for thermal, shock, vibration, seismic, fire, airborne contaminants and acoustic testing to meet customer and regulatory compliance requirements.

1982 – 1996: Mechanical Assembler/Welder, Chicago Blower Corp. Mechanical assembly and vibration analysis of heavy-duty air movement equipment.

## *Patents.*

1. W. H. Scofield, "Portable thermal chamber and testing system", US patent number 5,974,902, issued November 2, 1999.
2. W. H. Scofield, "Device and Method for Dissipating Thermal Energy", US patent number 6,154,368, issued November 28, 2000.
3. W. H. Scofield, "Thermal Enhancement of a Mezzanine Circuit Arrangement", US patent number 6,359,782, issued March 19, 2002.
4. W. H. Scofield, "Audible Air Flow Detector for Air Filters", US patent number 6,443,010, issued September 3, 2002.
5. W. H. Scofield, "Switch Frame Electronic Air Filter Alarming Device", US patent number 6,734,801, issued May 11, 2004.

## *Synergistic Activities.*

Engineered and managed processes to redesign equipment deployed at customer sites thereby reducing or eliminating customer service outages. Developed the appropriate thermal/environmental design in both laboratory experiments and at fully operational customer switchroom sites, documenting the entire process. Complied, managed and presented material and experimental findings at corporate locations worldwide.

Real time customer interface and problem resolution. Outline and report on corrective actions based on information obtained from an on-site investigation.

Wireless Emergency Response Team member provided support to the US Coast Guard and US Federal Marshals aiding in the search and rescue efforts for survivors of Hurricane Katrina and Hurricane Rita using infrared thermal imaging. This involved working closely with several branches of the US military.

Design and test electronic equipment to identify thermal robustness, document and present findings.

Member of a corporate team responsible for design and development of new technologies for cooling sophisticated electronic products. Project lead and principle inventor of cooling solutions designed to reduce cooling costs, improve cooling efficiency and reduce customer operating expenses.

## Resume – Peter Hayden

### *Education and Training.*

University of New Hampshire, Mechanical Engineering, B. S., 1985.  
Purdue University, Industrial Engineering, M. S., 1990.

### *Professional Experience.*

2006 – present: Senior Manager, Alcatel-Lucent Services. Leader of Sustainable Power Solution; responsible for network build and implementation.

2000 – 2006: Senior Manager, Lucent Worldwide Services. Business development/customer service development for deployment and maintenance services; responsible for specification and delivery of Lucent products.

1998 – 2000: Technical Manager, Lucent Technologies. Managed a team responsible for \$180M revenue stream comprised of central office infrastructure material.

1996 – 1998: Product/Project Manager, Lucent Technologies. Co-developed the corporate wide Contract Manufacturing Process and Strategy. Responsible for managing a large scale, cross functional effort to simplify Lucent's "quote to cash" Order Realization Process for the SONET product line.

1991 – 1996: Project Manager, AT&T (later Lucent Technologies) Network Systems. Responsible for implementing manufacturing technology transfers to support International Market Management's expansion into global markets.

1990 – 1991: Lead Process Engineer, AT&T New Product Introduction Center (NPIC) Engineering Department. Responsible for developing NPIC circuit pack operating and assembly process.

1987 – 1989: Process Engineer, AT&T Vision Line Process Engineering Department. Responsible for designing, specifying equipment for, installing, and various assembly operations in a "Just In Time" circuit pack assembly line.

1985 – 1987: Product Engineer, AT&T D4 Product Engineering Department. Responsible for product documentation, cost reduction, BOM accuracy, and assembly operations on D4 Common Units.

### *Synergistic Activities.*

Responsible for developing an offering of alternative power solutions for telecommunication and for delivering company-wide savings in sustainable power revenue.

Training in management leadership, telecommunications, manufacturing technology, quality assurance, diversity and software.

## Resume – Anthony Hanstedt

### *Education and Training.*

Northern Illinois University, Industrial Engineering Technology, B. S., 2005

### *Professional Experience:*

2008 - present: Specialty Products Sales Engineer, US Hose Corp. Management of all design, manufacturing, and quality functions for new and existing products and projects, in collaboration with customers. Design of metal, teflon, and composite hoses and hose assemblies for prototyping and production. Administration and supervision of new products and projects. Equipment, tooling, and process evaluation for continuous improvement in manufacturing.

2006 - 2008: Product and Design Engineer, Senior Flextronics. Design of prototype formed metal bellows, metal hose, and assemblies of these, for prototyping and production. Optimization of production efficiency and scrap rates using failure analysis, process improvement, and product design improvement techniques. Product design, management, and supervision as in present position.

2005: Tool Design Engineering Intern, Senior Flextronics. CAD engineering of tooling and machinery and plant layout design.

2005: Graduate Assistant, Northern Illinois University. Research/Teaching Assistance.

### *Synergistic Activities.*

Manufacturing and machining experience.

FEA and CAD experience.

Project management and plant/process design techniques.

## Resume – Mark Johnson

### *Education and Training.*

Milwaukee School of Engineering, Mechanical Engineering, B. S., 2004

University of Illinois Urbana-Champaign, Mechanical Engineering, M. S., 2009 (expected)

### *Professional Experience.*

1992 – 2002: Machine Operator, Johnson LHG. Machining, general labor, payroll, inventory, and quality control.

2003 - 2003: Packaging Engineer, 3M Touch Systems. Performed ergonomic studies; wrote standard operating procedures.

2004 – present: Product Development Engineer, Modine Manufacturing. Functioned as project leader and lead multiple government projects; participated in process development and financial studies for product launches; managed test and calibration of two calorimeter rooms with wind tunnels; designed multiple heat exchangers

### *Publications.*

1. M. Johnson, J. Gonzalvez, et al, “MPOWER’, a Simulation Code to Assist the Design of Refrigeration and A/C Equipment”, Paper R071 Purdue Compressor Conference, 2006
2. M. Johnson et al, J. R. Garcia-Cascales, et al, “A model for the analysis of compact heat exchangers”, Paper 2333 Purdue Compressor Conference, 2008

### *Synergistic Activities.*

Completed DFMEA, APQP, Negotiation, CI, and CAD training courses.

Work regularly with domestic and international customers, universities, and research agencies.

Technical work involving heat-exchanger design, wind-tunnel/calorimeter test and calibration, and system performance software development.

## Resume – Doug Krimmer

### *Education and Training.*

Milwaukee School of Engineering, Mechanical Engineering, B. S., 1992

### *Professional Experience:*

2006 – present: Principal Manufacturing Engineer, Modine Manufacturing Co. Qualification of equipment and tooling; lead process assembly, fabrication, layout, and documentation of heating/cooling products.

2005 – 2006: Manufacturing Systems Engineer, Delphi Automotive Systems. Lead and coordinate product launch activities at plant level; qualify and launch new production equipment and tools; coordinate core process engineering.

1995 – 2005: Senior Manufacturing Engineer, Delphi Automotive Systems. Develop and implement Lean Manufacturing concepts and Continuous Improvement projects.

1991 – 1995: Design Manager, Cornerstone Design Ltd. Design engineering; management, scheduling, and tracking of design engineering.

### *Synergistic Activities.*

Lean Manufacturing Academy.

UAW/GM Practical Ergonomics Training.

Shainin Red X Training.

Completed Continuous Improvement, MOS, APQP, Negotiation, and CAD training courses

Regularly work with domestic and international suppliers to coordinate production machine deliveries on time.

## Resume – Brad Engel

### *Education and Training.*

University of Wisconsin - Stout, Applied Technology, B. S., 1993.

### *Professional Experience.*

2002 – present: Principal Manufacturing Engineer, Modine Manufacturing Co. Process engineer and main technical resource for all metal joining processes; work on major capital purchases.

2006 – 2007: Manufacturing Engineer, Ames True Temper. Coordinated cost-reduction activities; developed robotic material handling concept; served as technical resource for all stamping and forming operations.

2002 – 2006: Principal Manufacturing Engineer, Thermacore International. Process engineer for all metal joining processes. Designed control system and software for automated heat-pipe manufacturing line.

1995 – 2002: Senior Manufacturing Engineer, Modine Manufacturing Co. Oversaw start-up of new manufacturing plant; served as plant process engineer; designed fixtures and tooling for automotive cooling systems.

1994 – 1995: Manufacturing Engineer, High Performance Doors, Inc. Designed fixtures and tooling; worked on ramp-up of manufacturing capabilities.

1993 – 1994: Process Engineer, Afton Plastics, Inc. Engineering of plastic extrusion processes; maintenance and quality control

### *Synergistic Activities.*

Process engineer and main technical resource for all metal joining processes.

## Resume – Mickey Himel

### *Education and Training.*

Nicholls State University, Applied Mathematics, B.S., 1979

### *Professional Experience.*

2004 – 2006 and 2009 – present: Lab Operations Manager, Alcatel-Lucent, Inc. Management, design, support, requisitioning, and implementation of four test labs.

2006 – 2009: Internet Protocol Television (IPTV) Deployment Manager, Alcatel-Lucent, Inc. Video Hub Office and Super Head-End Office new site builds, architecture migrations, and capacity growth.

1998 – 2004: Test Engineering Manager, System Verification and Test (SVT), Alcatel. Management, support, design, and implementation of 3 SVT labs.

1995 – 1998: Evaluation Specialist, Technical Analysis and Support, BellSouth Telecommunications. Evaluation responsibility for Next Generation Digital Loop Carrier products and related equipment.

1988 – 1995: Associate manager, BellSouth Telecommunications. Subject Matter Expert for digital loop carrier, loop multiplexers, databases and digital loop carrier/loop multiplexer deployments; strategic and tactical planning; budget and administrative responsibility for digital loop carrier/loop multiplexers; interface with vendors.

1979 – 1988: Outside Plant Facilities Engineer, South Central Bell Telephone. Responsibility for cable routes in Wire Centers in Houma, LA, Boynton Beach, FL, and Boca Raton, FL.

### *Synergistic Activities.*

Management of central office site for deployment of prototype modular cooling solution.

## Resume – Susanne Arney

### *Education and Training.*

Massachusetts Institute of Technology, Materials Science and Engineering, B. S., 1981  
Cornell University, Electrical Engineering, M. S., 1988  
Cornell University, Electrical Engineering, Ph. D., 1992

### *Professional Experience:*

2003 - present: Director, Microsystems and Nanotechnology Research Department, Bell Laboratories, Alcatel-Lucent, Inc. Management of research in microsystems, design, process integration, reliability, thermal management, eco-sustainability. Government and commercial funding.

2001 - 2003: Director, Micromechanics Research Department, Bell Laboratories. Management of MEMS device research group. Direct customer interface for LambdaRouter™ product sales.

2000 - 2001: Manager, MEMS Reliability Research Group, Bell Laboratories. Developed infrastructure, hardware, and protocols for MEMS Reliability Toolkit.

1992 - 2000: Member of Technical Staff, Bell Laboratories. Process development and reliability assessment of MEMS optical components and near-field scanning optical microscope.

1992: Post-Doctoral Research Associate, Cornell University. Fabrication MEMS devices and structures.

1982 - 1984: Device and Process Engineer, Motorola Corp. Silicon device fabrication and processing.

1977 - 1981: Undergraduate Research Associate, Massachusetts Institute of Technology. Semiconductor growth and characterization.

### *Publications.*

1. S. Arney, "Nanotechnology and Photonics", NIST Workshop on Materials Characterization for Nanoscale Reliability, Aug 14-16, 2007.
2. H. R. Shea, A. Gasparyan, H. B. Chan, S. Arney, R. E. Frahm, D. López, S. Jin, R. P. McConnell, "Effects of Electrical Leakage Currents on MEMS Reliability and Performance", IEEE Transactions on Device and Materials Reliability 4, 198 (2004).

### *Patents.*

1. S. Arney, A. Gasparyan, S. Jin, O. D. López, and H. R. Shea, "Providing a charge dissipation structure for an electrostatically driven device", US patent number 7,488,614, issued February 10, 2009.
2. S. Arney, A. Gasparyan, S. Jin, O. D. López, and H. R. Shea, "Charge dissipation in electrostatically driven devices", US patent number 6,944,008, issued September 13, 2005.
3. S. Arney, D. J. Bishop, and H. R. Shea, "Oxidation sensor for an electrical circuit and a method of manufacture therefor", US patent number 6,824,739, issued November 30, 2004.
4. S. Arney, S. G. Kosinski, and J. D. LeGrange, "Article for detecting power drift in the output of a diode array source", US patent number 6,275,516, issued August 14, 2001.

5. S. Arney, D. S. Greywall, and J. A. Walker, "Method and apparatus for an improved micromechanical modulator", US patent number 5,808,781, issued September 15, 1998.
6. S. Arney, D. S. Greywall, J. A. Walker, and B. Yurke, "Method and apparatus for an improved micromechanical modulator", US patent number 5,751,469, issued May 12, 1998.
7. S. Arney, N. C. MacDonald, and J. J. Yao, "Transistor microstructure", US patent number 5,397,904, issued March 14, 1995.
8. S. Arney, N. C. MacDonald, and J. J. Yao, "Submicron isolated, released resistor structure" US patent number 5,287,082, issued February 15, 1994.

*Synergistic Activities.*

Director of research in thermal management, packaging, eco-sustainability.

## Resume – Arthur Kressner

### *Education and Training.*

New York Polytechnic University, Chemical Engineering, B. S., 1968  
New York University, Chemical Engineering, M. S., 1973

### *Professional Experience:*

1973 - present: Director of Research and Development, Consolidated Edison Co. of New York.  
Research and development in fiber-optic devices, heat transfer, thermal management.

### *Publications.*

A. Boulanger, R. Anderson, A. Kressner, and J. Johnson, Computer-Aided Lean Management for the Energy Industry (PennWell Publishing, Tulsa, 2008).

### *Synergistic Activities.*

Management of electricity transmission and distribution systems, control center systems, substations, and customer operations.

## Resume – Joseph Carbonara

### *Education and Training.*

State University of New York at Cortland College, Physics, B. S., 1977

### *Professional Experience:*

1977 - present: Research and Development Project Manager, Consolidated Edison Co. of New York. Responsible for identifying, developing and implementing advanced technologies for company applications.

### *Synergistic Activities.*

Management of a large portfolio of research projects involving advanced technologies including renewables, distributed generation resources and information technologies.

Experience with evaluation, placement and demonstration of various end-use technologies such as cold climate heat pumps and efficient computer power supplies and distributed generation resources including microturbines, fuel cells, PV, and energy storage.

Co-chair of the Electric Power Research Institute (EPRI) Distributed Resource Committee.

Recipient of an EPRI Innovators Award.

Opportunity Title:	Recovery Act: Energy Efficient Information and
Offering Agency:	Golden Field Office
CFDA Number:	81.086
CFDA Description:	Conservation Research and Development
Opportunity Number:	DE-FOA-0000107
Competition ID:	
Opportunity Open Date:	06/02/2009
Opportunity Close Date:	07/21/2009
Agency Contact:	Anne Elkins Grants & Agreements Specialist E-mail: ITP_ITC@go.doe.gov

This electronic grants application is intended to be used to apply for the specific Federal funding opportunity referenced here.

If the Federal funding opportunity listed is not the opportunity for which you want to apply, close this application package by clicking on the "Cancel" button at the top of this screen. You will then need to locate the correct Federal funding opportunity, download its application and then apply.

I will be submitting applications on my behalf, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

\* Application Filing Name:

### Mandatory Documents

Move Form to Complete

Move Form to Delete

### Mandatory Documents for Submission

- Application for Federal Assistance (SF-424)
- Project/Performance Site Location(s)
- Other Attachments Form

### Optional Documents

Move Form to Submission List

Move Form to Delete

### Optional Documents for Submission

- Disclosure of Lobbying Activities (SF-LLL)

## Instructions

- 1** Enter a name for the application in the Application Filing Name field.

  - This application can be completed in its entirety offline; however, you will need to login to the Grants.gov website during the submission process.
  - You can save your application at any time by clicking the "Save" button at the top of your screen.
  - The "Save & Submit" button will not be functional until all required data fields in the application are completed and you clicked on the "Check Package for Errors" button and confirmed all data required data fields are completed.
- 2** Open and complete all of the documents listed in the "Mandatory Documents" box. Complete the SF-424 form first.

  - It is recommended that the SF-424 form be the first form completed for the application package. Data entered on the SF-424 will populate data fields in other mandatory and optional forms and the user cannot enter data in these fields.
  - The forms listed in the "Mandatory Documents" box and "Optional Documents" may be predefined forms, such as SF-424, forms where a document needs to be attached, such as the Project Narrative or a combination of both. "Mandatory Documents" are required for this application. "Optional Documents" can be used to provide additional support for this application or may be required for specific types of grant activity. Reference the application package instructions for more information regarding "Optional Documents".
  - To open and complete a form, simply click on the form's name to select the item and then click on the => button. This will move the document to the appropriate "Documents for Submission" box and the form will be automatically added to your application package. To view the form, scroll down the screen or select the form name and click on the "Open Form" button to begin completing the required data fields. To remove a form/document from the "Documents for Submission" box, click the document name to select it, and then click the <= button. This will return the form/document to the "Mandatory Documents" or "Optional Documents" box.
  - All documents listed in the "Mandatory Documents" box must be moved to the "Mandatory Documents for Submission" box. When you open a required form, the fields which must be completed are highlighted in yellow with a red border. Optional fields and completed fields are displayed in white. If you enter invalid or incomplete information in a field, you will receive an error message.
- 3** Click the "Save & Submit" button to submit your application to Grants.gov.

  - Once you have properly completed all required documents and attached any required or optional documentation, save the completed application by clicking on the "Save" button.
  - Click on the "Check Package for Errors" button to ensure that you have completed all required data fields. Correct any errors or if none are found, save the application package.
  - The "Save & Submit" button will become active; click on the "Save & Submit" button to begin the application submission process.
  - You will be taken to the applicant login page to enter your Grants.gov username and password. Follow all onscreen instructions for submission.

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): _____ * Other (Specify): _____
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* 3. Date Received: Completed by Grants.gov upon submission.	4. Applicant Identifier: _____
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5a. Federal Entity Identifier: _____	* 5b. Federal Award Identifier: _____
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State Use Only:

6. Date Received by State: _____	7. State Application Identifier: _____
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8. APPLICANT INFORMATION:

* a. Legal Name: Alcatel-Lucent USA
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* b. Employer/Taxpayer Identification Number (EIN/TIN): EX4	* c. Organizational DUNS: 933503385
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d. Address:

* Street1: 600 Mountain Ave
Street2: _____
* City: Murray Hill
County: Union
* State: NJ: New Jersey
Province: _____
* Country: USA: UNITED STATES
* Zip / Postal Code: 07974

e. Organizational Unit:

Department Name: _____	Division Name: Bell Labs
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f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Mr.	* First Name: Brian
Middle Name: _____	
* Last Name: Moore	
Suffix: _____	
Title: Bell Labs Grant Manager	
Organizational Affiliation: Alcatel-Lucent USA	
* Telephone Number: (908) 582 - 3970	Fax Number: (908) 582 - 3104
* Email: moorebf@alcatel-lucent.com	

Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type:

Q: For-Profit Organization (Other than Small Business)

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

\* 10. Name of Federal Agency:

Golden Field Office

11. Catalog of Federal Domestic Assistance Number:

81.086

CFDA Title:

Conservation Research and Development

\* 12. Funding Opportunity Number:

DE-FOA-0000107

\* Title:

Recovery Act: Energy Efficient Information and  
Communication Technology

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

\* 15. Descriptive Title of Applicant's Project:

Advanced Refrigerant-based Cooling Technologies for Information and Communications infrastructure  
(ARCTIC)

Attach supporting documents as specified in agency instructions.

[Add Attachments](#) [Delete Attachments](#) [View Attachments](#)

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

\* a. Applicant

\* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

\* a. Start Date:

\* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="1,815,276.80"/>
* b. Applicant	<input type="text" value="EX4"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="EX4"/>

\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

- Yes  No

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:  \* First Name:   
Middle Name:   
\* Last Name:   
Suffix:

\* Title:

\* Telephone Number:  Fax Number:

\* Email:

\* Signature of Authorized Representative:  \* Date Signed:

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

## Other Attachment File(s)

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\* Mandatory Other Attachment Filename:

---

To add more "Other Attachment" attachments, please use the attachment buttons below.

### Project/Performance Site Location(s)

**Project/Performance Site Primary Location**  I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Alcatel-Lucent USA  
DUNS Number: 9335033850000  
\* Street1: 600 Mountain Ave  
Street2:  
\* City: Murray Hill County: Union  
\* State: NJ: New Jersey  
Province:  
\* Country: USA: UNITED STATES  
\* ZIP / Postal Code: 07974-0636 \* Project/ Performance Site Congressional District: NJ-007

**Project/Performance Site Location 1**  I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Alcatel-Lucent USA  
DUNS Number: 9335033850000  
\* Street1: 3400 West Plano Parkway  
Street2:  
\* City: Plano County:  
\* State: TX: Texas  
Province:  
\* Country: USA: UNITED STATES  
\* ZIP / Postal Code: 75075-0000 \* Project/ Performance Site Congressional District: TX-003

**Project/Performance Site Location 2**  I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Alcatel-Lucent USA  
DUNS Number: 9335033850000  
\* Street1: 200 Lucent Lane  
Street2:  
\* City: Naperville County:  
\* State: IL: Illinois  
Province:  
\* Country: USA: UNITED STATES  
\* ZIP / Postal Code: 60566-7033 \* Project/ Performance Site Congressional District: IL-013

### Project/Performance Site Location(s)

#### Project/Performance Site Location 3

I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Alcatel-Lucent USA

DUNS Number: 9335033850000

\* Street1: 1 Robbins Road

Street2:

\* City: Westford

County:

\* State: MA: Massachusetts

Province:

\* Country: USA: UNITED STATES

\* ZIP / Postal Code: 01886-0000

\* Project/ Performance Site Congressional District: MA-005

#### Project/Performance Site Location 4

I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: U.S. Hose Corporation

DUNS Number: 1691096390000

\* Street1: 815 Forestwood Drive

Street2:

\* City: Romeoville

County:

\* State: IL: Illinois

Province:

\* Country: USA: UNITED STATES

\* ZIP / Postal Code: 60446-1167

\* Project/ Performance Site Congressional District: IL-085

#### Project/Performance Site Location 5

I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Modine Manufacturing Company

DUNS Number: 0060925550000

\* Street1: 1500 DeKoven Ave.

Street2:

\* City: Racine

County:

\* State: WI: Wisconsin

Province:

\* Country: USA: UNITED STATES

\* ZIP / Postal Code: 53403-2540

\* Project/ Performance Site Congressional District: WI-001

### Project/Performance Site Location(s)

Project/Performance Site Location 6

I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Consolidated Edison Company of New York

DUNS Number: 0069823590000

\* Street1: 4 Irving Place

Street2:

\* City: New York County:

\* State: NY: New York

Province:

\* Country: USA: UNITED STATES

\* ZIP / Postal Code: 10003-0000

\* Project/ Performance Site Congressional District: NY-014

# DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB

0348-0046

<b>1. * Type of Federal Action:</b> <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	<b>2. * Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	<b>3. * Report Type:</b> <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change
<b>4. Name and Address of Reporting Entity:</b> <input checked="" type="checkbox"/> Prime <input type="checkbox"/> SubAwardee * Name: Alcatel- Lucent * Street 1: 600 Mountain Ave    Street 2: _____ * City: Murray Hill    State: NJ: New Jersey    Zip: 07974 Congressional District, if known: NJ-07		
<b>5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:</b>		
<b>6. * Federal Department/Agency:</b> Department of Energy	<b>7. * Federal Program Name/Description:</b> Conservation Research and Development CFDA Number, if applicable: 81.086	
<b>8. Federal Action Number, if known:</b> _____	<b>9. Award Amount, if known:</b> \$ _____	
<b>10. a. Name and Address of Lobbying Registrant:</b> Prefix _____ * First Name N _____ Middle Name _____ * Last Name NONE _____ Suffix _____ * Street 1 _____ Street 2 _____ * City _____ State _____ Zip _____		
<b>b. Individual Performing Services (including address if different from No. 10a)</b> Prefix _____ * First Name NONE _____ Middle Name _____ * Last Name NONE _____ Suffix _____ * Street 1 _____ Street 2 _____ * City _____ State _____ Zip _____		
<b>11.</b> Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure. <b>* Signature:</b> Completed on submission to Grants.gov <b>* Name:</b> Prefix Mr. _____ * First Name Brian _____ Middle Name _____ * Last Name Moore _____ Suffix _____ <b>Title:</b> _____ <b>Telephone No.:</b> _____ <b>Date:</b> Completed on submission to Grants.gov		
<b>Federal Use Only:</b>		Authorized for Local Reproduction Standard Form - LLL (Rev. 7-97)

Applicant Name: Modine Manufacturing Company

Award Number:

OMB Approval No. 0348-0044

### Budget Information - Non Construction Programs

Section A - Budget Summary		Estimated Unobligated Funds		New or Revised Budget		
Grant Program Function or Activity	Catalog of Federal Domestic Assistance Number	Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. ARCTIC				\$287,930		
2.						
3.			REDACTED EXEMPTION 4			
4.						
5. Totals				\$287,930		
Section B - Budget Categories						
6. Object Class Categories	(1) ARCTIC	(2)	(3)	(4)	Total (5)	
a. Personnel						
b. Fringe Benefits						
c. Travel						
d. Equipment						
e. Supplies						
f. Contractual						
g. Construction						
h. Other						
i. Total Direct Charges (sum of 6a-6h)						
j. Indirect Charges						
k. Totals (sum of 6i-6j)						
7. Program Income						

REDACTED EXEMPTION 4

REDACTED EXEMPTION 4

Section C - Non-Federal Resources					
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) Totals	
8. ARCTIC					
9.					
10.		REDACTED EXEMPTION 4			
11.					
12. Total (sum of lines 8 - 11)					
Section D - Forecasted Cash Needs					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$287,930	\$98,829	\$132,944	\$44,134	\$12,023
14. Non-Federal					
15. Total (sum of lines 13 and 14)					
Section E - Budget Estimates of Federal Funds Needed for Balance of the Project					
(a) Grant Program					
	(b) First	(c) Second	(d) Third	(e) Fourth	
16. ARCTIC Budget Period 2					
17.					
18.		REDACTED EXEMPTION 4			
19.					
20. Total (sum of lines 16-19)					
Section F - Other Budget Information					
21. Direct Charges					
22. Indirect Charges					
23. Remarks					

## Instructions for the SF-424A

Public Reporting Burden for this collection of information is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Please do not return your completed form to the Office of Management and Budget; send it to the address provided by the sponsoring agency.

### General Instructions

This form is designed so that application can be made for funds from one or more grant programs. In preparing the budget, adhere to any existing Federal grantor agency guidelines which prescribe how and whether budgeted amounts should be separately shown for different functions or activities within the program. For some programs, grantor agencies may require budgets to be separately shown by function or activity. For other programs, grantor agencies may require a breakdown by function or activity. Sections A, B, C, and D should include budget estimates for the whole project except when applying for assistance which requires Federal authorization in annual or other funding period increments. In the later case, Sections A, B, C, and D should provide the budget for the first budget period (usually a year) and Section E should present the need for Federal assistance in the subsequent budget periods. All applications should contain a breakdown by the object class categories shown in Lines a-k of Section B.

### Section A. Budget Summary Lines 1-4 Columns (a) and (b)

For applications pertaining to a single Federal grant program (Federal Domestic Assistance Catalog number) and not requiring a functional or activity breakdown, enter on Line 1 under Column (a) the catalog program title and the catalog number in Column (b).

For applications pertaining to a single program requiring budget amounts by multiple functions or activities, enter the name of each activity or function on each line in Column (a), and enter the catalog number in Column (b). For applications pertaining to multiple programs where none of the programs require a breakdown by function or activity, enter the catalog program title on each line in Column (a) and the respective catalog number on each line in Column (b).

For applications pertaining to multiple programs where one or more programs require a breakdown by function or activity, prepare a separate sheet for each program requiring the breakdown. Additional sheets should be used when one form does not provide adequate space for all breakdown of data required. However, when more than one sheet is used, the first page should provide the summary totals by programs.

### Lines 1-4, Columns (c) through (g)

For new applications, leave Columns (c) and (d) blank. For each line entry in Columns (a) and (b), enter in Columns (e), (f), and (g) the appropriate amounts of funds needed to support the project for the first funding period (usually a year).

For continuing grant program applications, submit these forms before the end of each funding period as required by the grantor agency. Enter in Columns (c) and (d) the estimated amounts of funds which will remain unobligated at the end of the grant funding period only if the Federal grantor agency instructions provide for this. Otherwise, leave these columns blank. Enter in columns (e) and (f) the amounts of funds needed for the upcoming period. The amount(s) in Column (g) should be the sum of amounts in Columns (e) and (f).

For supplemental grants and changes to existing grants, do not use Columns (c) and (d). Enter in Column (e) the amount of the increase or decrease of Federal funds and enter in Column (f) the amount of the increase or decrease of non-Federal funds. In Column (g) enter the new total budgeted amount (Federal and non-Federal) which includes the total previous authorized budgeted amounts plus or minus, as appropriate, the amounts shown in Columns (e) and (f). The amount(s) in Column (g) should not equal the sum of amounts in Columns (e) and (f).

Line 5—Show the totals for all columns used.

### Section B. Budget Categories

In the column headings (a) through (4), enter the titles of the same programs, functions, and activities shown on Lines 1-4, Column (a), Section A. When additional sheets are prepared for Section A, provide similar column headings on each sheet. For each program, function or activity, fill in the total requirements for funds (both Federal and non-Federal) by object class categories.

Lines 6a-i—Show the totals of Lines 6a to 6h in each column.

Line 6j—Show the amount of indirect cost.

Line 6k—Enter the total of amounts on Lines 6i and 6j. For all applications for new grants and continuation grants the total amount in column (5), Line 6k, should be the same as the total amount shown in Section A, Column (g), Line 5. For supplemental grants and changes to grants, the total amount of the increase or decrease as shown in Columns (1)-(4), Line 6k should be the same as the sum of the amounts in Section A, Columns (e) and (f) on Line 5.

Line 7—Enter the estimated amount of income, if any, expected to be generated from this project. Do not add or subtract the amount from the total project amount. Show under the program narrative statement the nature and source of income. The estimated amount of program income may be considered by the federal grantor agency in determining the total amount of the grant.

### Section C. Non-Federal Resources

**Lines 8-11**—Enter amounts of non-Federal resources that will be used on the grant. If in-kind contributions are included, provide a brief explanation on a separate sheet.

**Column (a)**—Enter the program titles identical to Column (a), Section A. A breakdown by function or activity is not necessary.

**Column (b)**—Enter the contribution to be made by the applicant.

**Column (c)**—Enter the amount of the State's cash and in-kind contribution if the applicant is not a State or State agency. Applicants which are a State or State agencies should leave this column blank.

**Column (d)**—Enter the amount of cash and in-kind contributions to be made from all other sources.

**Column (e)**—Enter totals of Columns (b), (c), and (d).

**Line 12**—Enter the total for each of Columns (b)-(e). The amount in Column (e) should be equal to the amount on Line 5, Column (f) Section A.

### Section D. Forecasted Cash Needs

**Line 13**—Enter the amount of cash needed by quarter from the grantor agency during the first year.

**Line 14**—Enter the amount of cash from all other sources needed by quarter during the first year.

**Line 15**—Enter the totals of amounts on Lines 13 and 14.

### Section E. Budget Estimates of Federal Funds Needed for Balance of the Project

**Lines 16-19**—Enter in Column (a) the same grant program titles shown in Column

(a), Section A. A breakdown by function or activity is not necessary. For new applications and continuation grant applications, enter in the proper columns amounts of Federal funds which will be needed to complete the program or project over the succeeding funding periods (usually in years). This section need not be completed for revisions (amendments, changes, or supplements) to funds for the current year of existing grants.

If more than four lines are needed to list the program titles, submit additional schedules as necessary.

**Line 20**—Enter the total for each of the Columns (b)-(e). When additional schedules are prepared for this Section, annotate accordingly and show the overall totals on this line.

### Section F. Other Budget Information

**Line 21**—Use this space to explain amounts for individual direct object-class cost categories that may appear to be out of the ordinary or to explain the details as required by the Federal grantor agency.

**Line 22**—Enter the type of indirect rate (provisional, predetermined, final or fixed) that will be in effect during the funding period, the estimated amount of the base to which the rate is applied, and the total indirect expense.

**Line 23**—Provide any other explanations or comments deemed necessary.





### D. Spending Plan

Figure 2 is the monthly Spend Plan and Funding Plan for the ARCTIC program:

**Spend Plan**

CY10	CY10	CY10	CY10	CY10	CY10	
Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	
REDACTED EXEMPTION 4						
CY10	CY10	CY10	CY10	CY10	CY10	CY10
Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	TOTAL
REDACTED EXEMPTION 4						
CY11	CY11	CY11	CY11	CY11	CY11	
Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	
REDACTED EXEMPTION 4						
CY11	CY11	CY11	CY11	CY11	CY11	CY11
Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	TOTAL
REDACTED EXEMPTION 4						
						Total Cost \$

**Funding Plan**

CY10	CY10	CY10	CY10	CY10	CY10	
Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	
REDACTED EXEMPTION 4						
CY10	CY10	CY10	CY10	CY10	CY10	CY10
Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	TOTAL
REDACTED EXEMPTION 4						
CY11	CY11	CY11	CY11	CY11	CY11	
Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	
REDACTED EXEMPTION 4						
CY11	CY11	CY11	CY11	CY11	CY11	CY11
Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	TOTAL
REDACTED EXEMPTION 4						
						Total Cost \$

Figure 2: ARCTIC Spend Plan and Funding Plan

**E. Schedule for Release of Outcomes**

Task Number & Name	Go/No-Go Decision Point
<p>REDACTED EXEMPTION 4</p>	

## F. Program Management Team

Figure 3 depicts the Bell Labs ARCTIC Team. The Principal Investigator will be responsible for the technical execution of the program. The Business Development Manager will provide business management, financial management, and contract support for the program.

Bell Laboratories (BL)

REDACTED  
EXEMPTION 4

Figure 3: Bell Labs ARCTIC Team

### F.1 Program Management Methodologies and Tools

#### F.1.1 Cost/Schedule Control

Our Project Management team uses EX 4 to develop and maintain the master and detailed schedules. Once the program schedules are developed, resources are allocated against those schedules. The Bell Labs ARCTIC Team will use data from the Bell Labs cost system to effectively manage resource allocations, costs, and schedules associated with the ARCTIC Program. The four aspects of project management philosophy, i.e., planning, statusing and analysis, change control, and reporting are discussed in greater detail below.

#### F.1.2 Planning

The first and most critical phase of Bell Labs program management philosophy is the planning phase. This phase is initiated during our proposal development and is a prerequisite to the other phases. During this phase, the SOW requirements are derived and a top-level program plan is developed, and is comprised of the work breakdown structure (task level), task schedules, task level-of-effort estimates and

the corresponding cost estimates. The primary tasks may be broken into smaller sub-tasks to provide the level of detail required for proactive resource, schedule, and cost management, in addition to risk identification and mitigation. The Master Schedule will be a roll-up of the task schedules and will provide a detailed picture of the overall program health.

### **F.1.3 Statusing and Analysis**

The Business Manager will work closely with the technical team to ensure milestones are met, and to facilitate mitigation planning if required to preserve the schedule. On a monthly basis the Business Manager will provide the program's Principal Investigator (PI) a business report and review the details, including labor hours, incurred costs, milestone status and open commitments. Likewise, the PI will provide the Business Manager with a schedule status and a program risk update. These reviews will provide visibility into the program's progress and allow for proactive adjustments or corrective actions if/when required. Expenditures and open commitments will also be tracked and variations to cost, schedule or risk will be documented. Resulting performance reports will be generated at the summary level to provide the monthly and cumulative cost and schedule status.

### **F.1.4 Change Control**

The program baseline, once established, will be monitored closely for changes to the outputs or overall project scope. Change requests will be reviewed, tracked and evaluated for their impact on the project. In the unusual case of a necessary baseline change, new work, or change in scope, the DOE Program Manager will be notified in advance for concurrence and/or contractual direction.

### **F.1.5 Reporting**

A key role of the Program Manager is to organize and disseminate program results to the extended program team, of which the customer is a key component. Communication of program performance will be provided monthly at the internal Bell Labs level via status review meetings and at the customer level via monthly program status reports (described below). Formal Quarterly Program Status Reviews will also take place every third month of the program. The following paragraphs describe the various reporting mechanisms.

#### **F.1.5.1 Monthly Internal Program Status Meetings**

The Bell Labs ARCTIC Principal Investigator and Business Manager will conduct Monthly Internal Status Meetings during which the program status will be presented and updated if needed. Information in the meeting will include:

- **Schedule Performance** to include an update on schedule and priorities and a review of upcoming activities.
- **Cost Status** to include review of labor hours incurred, open commitments, and contractual and funding issues
- **Technical Progress and Issues** to include an assessment of the completeness and conformity of the design and coordination of development and deployment efforts
- **Risk Assessment** to include an update on development risks and mitigation efforts
- **Action Items** to include assignment and recording of development/deployment action items and due dates, and status of open action items from prior meetings.



#### F.1.5.4 Quarterly Program Status Reviews

Bell Labs will host Quarterly Program Status Reviews at Bell Labs facilities in Murray Hill, New Jersey for the purpose of reviewing program status and exchanging technical information. The specific dates, times, and locations of these meetings will be by mutual agreement.

#### F.1.6 Risk Management

Risk is an inherent element in any research program. Factors such as technical complexity, cost uncertainty, and an aggressive schedule contribute to the risk potential. To overcome these and other potential risks, the Bell Labs ARCTIC Team will employ a proven risk management process to identify, analyze, and prioritize risks associated with this program. This process will enable the team to develop mitigation strategies prior to the occurrence of risk events to prevent them from compromising program objectives. The benefits of using a defined risk management process are to improve the overall management of the program and to ensure that the program's performance, schedule, and cost goals will be met as effectively as possible.

The ARCTIC Team will use an iterative risk management process that encompasses the following steps:

- **Risk Identification** – identifying, classifying, and prioritizing all risks to the successful execution of the program
- **Risk Analysis** – discovering the cause, effects, and magnitude of potential risks
- **Risk Mitigation** – developing alternative solutions to manage, reduce, or eliminate each major risk area
- **Risk Monitoring** – periodic reporting and performance review of the specific risk area and evaluation of the implemented risk reduction solutions

The basic approach to risk mitigation and management is through partnership activities, agreement, and collaborative management.

Additional Congressional Districts

IL-013	Alcatel-Lucent USA, Naperville IL
IL-085	US Hose Corp, Romeoville IL
MA-005	Alcatel-Lucent USA, Westford MA
NY-014	Consolidated Edison Company of New York, New York NY
TX-003	Alcatel-Lucent USA, Plano TX
WI-001	Modine Manufacturing, Racine WI