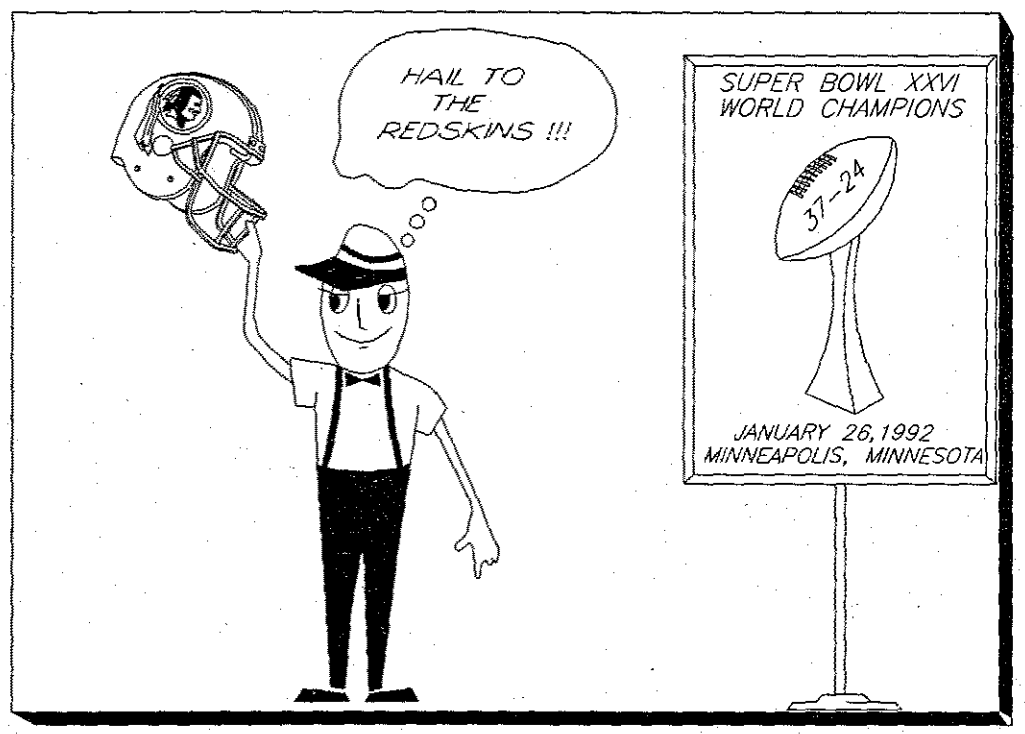
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Circulation rm 2C01 CP3/4 308-0810
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Bindery Unit Ronald Knickerbocker FERN 557-1530
Collection Development Dale Ram rm 1E11 CM1 308-4484

CHEMICAL EXAMINING GROUPS

1100 General, Metallurgical, Inorganic, Petroleum and Electrical Chemistry and Engineering rm 9C17 CP3 308-0662

Director Dennis E. Talbert rm 9D19 CP3 308-3729
Secretary (Vacant) rm 9D19 CP3 308-3729
General Information/Receptionist rm 9C17 CP3 308-0662
SAE Constance Morgan rm 9D20 CP3 308-0662

1101 Metallurgy-alloys, process, and apparatus
Richard Dean rm 9B02 CP3 308-3020
1102 Electrochemical processes, products and apparatus
John F. Niebling rm 10B06 CP3 308-3325
1103 Inorganic compounds and non-metallic elements (except radioactive); chemical gas purification processes
Michael M. Lewis rm 9A15 CP3 308-2535
1104 Semiconductor device manufacturing; semiconductor stock materials; batteries and battery manufacturing
Brian E. Hearn rm 10D35 CP3 308-2552
1105 Specific chemical compositions, dyeing, electroheological fluids, functional fluids, refrigerants and electrical conducting compositions superconductors
Paul Lieberman rm 9E02 CP3 308-2523
1106 Catalytic compositions; chemistry of hydrocarbons
Helen M. S. Sneed rm 8B36 CP3 308-3808

CHEMICAL EXAMINING GROUPS (CONT.)

1107 Semiconductor device manufacturing; semiconductor stock materials; single crystal growing; inorganic silicon compounds
Olik Chaudhuri rm 10E02 CP3..... 308-2546

1108 Refractory glass and cement compositions; abrasives; coating compositions and pigments
William R. Dixon, Jr. rm 8A01 CP3..... 308-3824

1109 Mineral oils processes and products; cleaning processes; carbohydrates; coating compositions and sputtering, processes and apparatus
Theodore Morris rm 10B02 CP3..... 308-3324

1111 Fuel and lubricating compositions, magnetic, descaling and water purifying compositions; miscellaneous chemical compositions; bleaching and dyeing
Prince Willis rm 9D35 CP3..... 308-3050

1200 Organic Chemistry Drug, Bio-Affecting and Body Treating Composition rm 3C11 CM1..... 308-0210

Director John F. Terapane rm 3D09 CM1..... 308-0193
Secretary Carolyn Ballard rm 3D07 CM1..... 308-0193
General Information/Receptionist rm 3C11 CM1..... 308-1235
SAE Helen Childs rm 3D11 CM1..... 308-4549

1201 Nitrogen heterocyclic organic chemistry, azo chemistry, miscellaneous esters, phosphorus esters, nitriles
Mary C. Lee rm 6A02 CP2..... 308-4546

1202 Nitrogen containing heterocyclic compounds, seven or more ring members compounds
Mukund Shah rm 4D19 CM1..... 308-4716

1203 Six membered nitrogen containing heterocyclics compounds, oxygen containing heterocyclic compounds (excluding epoxides), and cosmetic compositions
C. Warren Ivy rm 4B01 CM1..... 308-4697

1204 Organic carboxylic acids, esters and organometallics
Jose' Dees rm 2D19 CM1..... 308-4628

1205 Organic pharmaceuticals and dentifrices
Frederick E. Waddell rm 2D01 CM1..... 308-4637

1206 Organic sulfonic acid and ester compounds; oxy, aldehyde and ketone compounds; phosphorus compounds; heterooxygen compounds; steroids; synthesis gas; Fischer Tropsch; azo dyes
Marianne Cintins rm 4D01 CM1..... 308-4725

1209 Herbicides and pesticides; and amino nitrogen containing compounds and heterocyclic sulfur compounds
Glennon H. Hollrah rm 3D01 CM1..... 308-4552

1300 Specialized Chemical Industries and Chemical Engineering rm 7C17 CP3..... 308-0651

Director Donald E. Czaja (Acting) rm 7D19 CP3..... 308-1193
Secretary Vickie Beach rm 7D19 CP3..... 308-1193
General Information/Receptionist rm 7C17 CP3..... 308-0651
SAE Ola Sims rm 7D13 CP3..... 308-2349

1301 Adhesive bonding and miscellaneous chemical manufacture; resilient tires
Michael W. Ball rm 6E02 CP3..... 308-2058

1302 Food or edible material, processes, compositions and products
Donald E. Czaja rm 7A01 CP3..... 308-3852

1303 Paper making and fiber liberation, glass manufacture; mineral, oil apparatus, coating apparatus, and thermolytic distillation processes and apparatus
Richard V. Fisher rm 6D35 CP3..... 308-1152

CHEMICAL EXAMINING GROUPS (CONT.)

1304 Adhesive bonding, etching processes, metal reactive coatings, and chemical vapor deposition apparatus
Dave Simmons rm 6A01 CP3..... 308-1972

1305 General molding or treating apparatus; static molds, gas separation, gas and liquid contact
Jay H. Woo rm 8D35 CP3..... 308-3793

1306 Liquid purification or separation and processes of plastic and nonmetallic article shaping or treating
Robert A. Dawson rm 7D01 CP3..... 308-2340

1307 Processes of plastic and nonmetallic article shaping or treating
Jan H. Silbaugh rm 8D01 CP3..... 308-3829

1308 Liquid purification or separation, concentrating apparatus and processes and separating and assorting solids - froth flotation; separatory distillation processes and apparatus
Stanley S. Silverman rm 7E02 CP3..... 308-3837

1309 Coating processes, coating apparatus, and high-temperature superconductors
Shrive Beck rm 7D35 CP3..... 308-2333

1500 High Polymer Chemistry, Plastics, Coating, Photography, Stock Materials and Compositions rm 7C11 CM1..... 308-2351

Director James O. Thomas, Jr. rm 7D09 CM1..... 308-2359
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SAE Kathryn Perry rm 7B11 CM1..... 308-2351
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Program Analyst Sharon C. Graham rm 7D08 CM1..... 308-0621
Paralegal Irene Weaver rm 7D12 CM1..... 308-2390

1501 Polysiloxanes, polysulfides, epoxy polymers and compositions
John Bleutge rm 5D19 CM1..... 308-2363

1502 Drug, bio-affecting and body treating compositions
Thurman Page rm 6D19 CM1..... 308-2927

1503 Foams, condensation polymers of cellulose, phenols, isocyanates, polyesters, natural resins, rubbers and lignins
John Kight, III rm 6D01 CM1..... 308-2453

1504 Stock materials or miscellaneous articles of manufacture comprising of carpets, fabrics, and reinforced composites
George Lesmes rm 8D12 CM1..... 308-2362

1505 Addition polymers and compositions containing additions polymers and ion-exchange resins
Joseph L. Schofer rm 5D01 CM1..... 308-2452

1506 Radiation imagery chemistry - silver halide, diazo and optical-photosensitive compositions and processes
Charles Bowers rm 7D19 CM1..... 308-2417

1507 Radiation imagery chemistry - photopolymerization, irradiation of polymers and electrophotography
Marion McCamish rm 7D01 CM1..... 308-3961

1508 Stock materials or miscellaneous articles of manufacture comprising structural features, hollow or container-type articles, and structurally defined webs or sheets
Ellis Robinson rm 8D19 CM1..... 308-2364

1509 Stock materials or miscellaneous articles comprising polymeric materials, magnetic recording media and coated particles
Merrell Cashion rm 8B01 CM1..... 308-2367

1511 Polymer compositions having; special utility; stabilizers; fillers; dyes; pigments or condensation polymers
Paul Michl rm 6B01 CM1..... 308-2451

1512 Mixed synthetic resin compositions, blocks and graft copolymers
(Vacant) (room number pending) CM-1..... 308-2351

CHEMICAL EXAMINING GROUPS (CONT.)

1513 Stock material or miscellaneous articles comprising optical recording media; electrostatic recording media; superconductors, printed circuits and coated and structural fibers
(Vacant) (room number pending) CM-1..... 308-2351

1800 Biotechnology rm 12A05 CM1..... 308-0196

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Secretary (Vacant) rm 12A05 CM1..... 308-1123
General Information/Receptionist rm 12C11 CM1..... 308-0196
SAE Ellen Scott rm 12B11 CM1..... 308-1175

1801 Apparatus drawn to sterilization and deodorizing. Chemical reactors and chemical dispensers. Methods and apparatus drawn to heating and illuminating using gas. Apparatus for microbiology such as fermentors
Robert Warden rm 12B01 CM1..... 308-2920

1802 Immunoassay involving viruses, (NON-AIDS), microorganisms, enzymes and heterogeneous and homogeneous formats. Monoclonal antibodies and the pharmaceutical compositions and utilities thereof
Esther Kepplinger rm 11D01 CM1..... 308-1219

1803 Plant extracts and plant materials of undetermined constitution. Enzyme assays Drugs, bio affecting and body treatment compositions where the active ingredient is a carbohydrate, O, S or N-glycoside or derivative thereof. Compounds that are carbohydrates; O, S or N-glycosides and derivatives thereof
Johnnie Brown rm 11B01 CM1..... 308-4743

1804 Multicellular organisms (plant/animal), plant patents molecular biology associated with plants, animals and multicellular hosts therapy associated with genes, DNA, RNA and modified cells
Elizabeth Weimar rm 10B01 CM1..... 308-0254

1805 New techniques for transformation, electroporation, new techniques for production of recombinant enzymes, enhancement of expression, recombinant production of amino acids and antibiotics viral vectors, preparing vectors, engineered cells, mammallian cell lines, regulatory genes
Richard Schwartz rm 10D01 CM1..... 308-1133

1806 Recombinant and monoclonal antibodies, pharmaceutical compositions thereof, methods of preparation and utilities thereof. DNA encoding antibodies and associated vectors and transformed cells. Fused animal cells that produce antibodies and their preparation. T cells, B cells and the preparation and use thereof (except gene therapy which is in 1804)
John Doll rm 9B19 CM1..... 308-3535

1807 Nucleic acid hybridization assays, nucleic acid amplification methods including PCR, nucleic acid probes and methods of preparation thereof
Margaret Moskowitz rm 11D19 CM1..... 308-2454

1808 Drug, bio-affecting and body treating uses and compositions wherein the active ingredient is an enzyme, co-enzymes or the active ingredient is an extract, body fluid, or cellular material of undetermined constitution derived from animal. Microorganism, enzymes, tissue cell culture per se; process of synthesizing chemical compounds using microorganisms, enzymes and tissue cultures, process of utilizing an enzyme, microorganism to liberate, separate, or purify and preexisting compound, or cleaning objects or textiles or compositions thereof
Douglas Robinson rm 10D19 CM1..... 308-2987

CHEMICAL EXAMINING GROUPS (CONT.)

1809 Immunological testing apparatus and processes of apparatus for chemical and clinical analysis
(Vacant) rm 12D19 CM1..... 308-4027

1811 Non-recombinant peptides and proteins, their pharmaceutical compositions, methods of preparation and utilities. Including the chemical modification, physical treatment, purification, separation and identification thereof
(Vacant) rm 9D01 CM1..... 308-3529

1812 Recombinant hormones, growth factors, lymphokines, receptors, recombinant producting, therapeutic compositions and uses thereof
David Lacey rm 10B19 CM1..... 308-4314

1813 Immunoassay including for AIDS, pharmaceutical compositions and utilities of recombinant on antigenic peptides and proteins, antigenic peptides and proteins and genes therefore
(Vacant) rm 11B19 CM1..... 308-4028

1814 Recombinant enzymes, blood proteins, toxins and miscellaneous proteins, recombinant production and therapeutic compositions and uses thereof
Robert A. Wax rm 9D19 CM1..... 308-4216

ELECTRICAL EXAMINING GROUPS

2100 Industrial Electronics, Physics and Related Elements
rm 11C17 CP4..... 308-1782

Director Donald G. Kelly rm 11D37 CP4..... 308-0658
Secretary Danita L. Ingram rm 11D37 CP4..... 308-0658
General Information/Receptionist rm 11C17 CP4..... 308-1782
SAE Romaine D. Bowling rm 11D21 CP4..... 308-3068

2101 Photography, photocopying, motion pictures, optics, capacitors, music, mechanical registers and acoustics
L. Thomas Hix rm 10E02 CP4..... 308-1436

2102 Electrical motor-generator structure, piezoelectric elements and devices, generator systems, battery and condenser charging and discharging, power supply regulation, conversion systems
Steven L. Stephan rm 10E16 CP4..... 308-2826

2103 Conductors, insulators, inductors, electromagnets, magnetic and thermal switches, electric lamp and discharge devices, and industrial furnaces
Leo P. Picard rm 11B02 CP4..... 308-0538

2104 Electrical switches and arc suppression, protection of electrical systems and devices, electromagnetic control systems, electric charge devices and systems, electrical elevator controls, prime mover dynamo plants, plural load or supply systems, and code conversion
A. David Pellinen rm 10D17 CP4..... 308-3301

2105 Electric photocopying and coating apparatus
Arthur T. Grimley rm 11D17 CP4..... 308-1373

2106 Electric heating, electric resistance heating devices, electric welding, industrial electric furnaces and resistors
Bruce A. Reynolds rm 10B02 CP4..... 308-3305

2107 Motor control systems, electrical music tone generation and horology
William M. Shoop Jr. rm 11B40 CP4..... 308-3103

2108 Ink jet, electric, magnetographic and optical recorders, plotters, weighing scales, facsimile and pictorial communication
Benjamin R. Fuller rm 11D01 CP4..... 308-0079

ELECTRICAL EXAMINING GROUPS (CONT.)

2200/2900 Special Laws Administration & Designs
rm 11D17 CP3..... 308-0766

Director Robert E. Garrett rm 11D17 CP3..... 308-0753
Secretary Tereta Gilchrist rm 11D19 CP3..... 308-0765
General Information/Receptionist Group 220
rm 11C17 CP3..... 308-0766
General Information/Receptionist Group 290
rm 1106 CP6..... 603-0493
SAE Joanne Hodge rm 11D11 CP3..... 308-3518
Licensing and Review Mildred Scott rm 11D08 CP3..... 308-1715
Theresa Bradshaw rm 10D03 CP3..... 308-3350

2201 Weapons (firearms, ordnance, ammunition, explosive devices), aeronautics and ships as well as all classified mechanical applications
Deborah L. Kyle rm 11A15 CP3..... 308-0918

2202 Radio, optic, acoustic, wave communications systems and all classified electrical applications
Thomas H. Tarcza rm 11D35 CP3..... 308-1689

2203 Chemical specials use compositional including fire extinguishing and retarding earth boring and well treating, liquid crystals, colloids and dispersants, preservative agents, and microcapsule and body treating radioactive as well as classified chemical applications
Robert L. Stoll rm 11E02 CP3..... 308-1701

2204 Chemical engineering including radioactive materials, powder metallurgy rocket fuels, explosives, thermal and photoelectric batteries, and nuclear reactors systems and related technologies, and classified chemical applications
Brooks H. Hunt rm 11A01 CP3..... 308-1682

2901 Ornamental designs in the area of industrial arts
Wallace R. Burke rm 11E02 CP6..... 603-0569

2902 Ornamental designs for fine arts
Bernard Ansher rm 11A02 CP6..... 603-0558

2903 Ornamental designs, industrial/fine arts
Donald Walsh rm 1215-1 CP6..... 603-0555

2904 Ornamental designs, industrial/fine arts
A. Hugo Word rm 11B04 CP6..... 603-0571

2300 Information Processing, Storage and Retrieval
rm 11C17 CP4..... 308-0754

Director Gerald Goldberg rm 9D17 CP4..... 308-1785
Secretary Teresa E. Dugan rm 9D19 CP4..... 308-1785
Deputy Director Stewart J. Levy rm 8D17 CP4..... 308-0552
Secretary Carol Cleveland rm 8D17 CP4..... 308-0552
Special Program Examiner Archie E. Williams, Jr. rm 8E02 CP4... 308-0700
Paralegal Danita Ingram rm 8E03 CP4..... 308-0700
General Information/Receptionist rm 9C17 CP4..... 308-0754
SAE Katherine A. Nelson rm 9D15 CP4..... 308-1622

2301 Data presentation/computer graphics, calculators and digital arithmetic circuitry
Gary V. Harkcom rm 10E16 CP4..... 308-2878

2302 Information processing systems organization; instruction processing; compatibility, simulation, or emulation of components; processing architecture
Thomas C. Lee rm 9A01 CP4..... 308-3778

2303 Dynamic magnetic information storage and retrieval systems and elements
Aristotelis Psitos rm 7B12 CP4..... 308-1598

2304 Ordnance or weapon system computers and special applications of computers including vehicle control, navigation, measuring, testing and monitoring
Parshotam S. Lall rm 8A15 CP4..... 308-1393

ELECTRICAL EXAMINING GROUPS (CONT.)

2305 Electrical dynamic information storage and retrieval and record controlled systems
Roy N. Envall, Jr. rm 7E02 CP4..... 308-1532

2306 Computer control systems, computer aided product manufacturing, and error correction and detection systems
Jerry Smith rm 8E16 CP4..... 308-0758

2307 Database management, control of processes or tasks within a computing system, computer operating systems, and transmission of information among multiple processing systems
Gareth D. Shaw rm 9B40 CP4..... 308-2969

2308 Artificial intelligence, general purpose programmable digital computer systems, computers, and miscellaneous digital data processing systems
Michael R. Fleming rm 9E16 CP4..... 308-2968

2309 Systems controlled by data bearing records, coded record sensors, record controlled calculators, dynamic information storage or retrieval and telephone answering machines and computer timing systems
Stuart S. Levy rm 7E16 CP4..... 308-1295

2311 Computers in business, medicine earth science, games and social sciences, and speed anayulisis and synthesis systems
Dale M. Shaw rm 8B02 CP4..... 308-0612

2312 Static information storage and retrieval and storage accessing and control in information processing systems
Stuart N. Hecker rm 9D01 CP4..... 308-0905

2400 Packages, Cleaning, Textiles and Geometrical Instruments
rm 6C17 CP4..... 308-0771

Director Carlton R. Croyle rm 6D37 CP4..... 308-0777
Secretary Donna P. Magaha rm 6D37 CP4..... 308-0777
General Information/Receptionist rm 6C17 CP4..... 308-0771
SAE Doretha A. Marcelli rm 6D15 CP4..... 308-0771

2401 Packaging art including glass, fabric, metal, wood, paper and plastic receptacles plus closures
Stephen Marcus rm 6B02 CP4..... 308-1082

2402 Fluid treating, presses, food apparatus, cleaning, agitating, centrifuges, and web feeding
Harvey C. Hornsby rm 7A15 CP4..... 308-1272

2403 Conduits, bathroom facilities, cleaning apparatus, filling apparatus, switches, and article carriers
Henry J. Recla rm 6B30 CP4..... 308-1382

2404 Special receptacles or packages, shoes and shoe making
Paul T. Sewell rm 6E02 CP4..... 308-2126

2405 Textiles, winding and reeling, pushing and pulling, bearings, and flexible torque transmitters
Daniel P. Stodola rm 5B02 CP4..... 308-2686

2406 Measuring and testing, dynamic information storage or retrieval, optical image projectors and joint packing
William A. Cuchlinski rm 6E14 CP4..... 308-3873

2407 Textile and leather manufacture, apparel, and textiles
Werner Schroeder rm 6D01 CP4..... 308-0949

2500 Electronic and Optical Systems and Devices
rm 3A23 CP2..... 308-1563

Director Joseph J. Rolla, Jr. rm 3A25 CP2..... 308-0530
Secretary Deborah Perry-Leeper rm 3A23 CP2..... 308-0530
General Information/Receptionist rm 3C11 CP2..... 308-0956
SAE JoAnn Davis rm 3B08 CP2..... 308-4867
Deputy SAE Linda Hodge rm 4B24 CP2..... 308-4927
SAC Ann Rehor rm 3D09 CP2..... 308-4854

ELECTRICAL EXAMINING GROUPS (CONT.)

2501 Lasers, fiber optic devices
William Sikes rm 3E16 CP2..... 308-4842

2502 Electronic modulators, demodulators, oscillators, amplifiers, lamp and discharge device systems, tuners and wave transmission lines and networks
Eugene Laroche rm 4A04 CP2..... 308-4910

2503 Semiconductor devices
Andrew James rm 4D33 CP2..... 308-4894

2504 Semiconductor and vacuum tube circuits and systems and electronic and electromechanical counting circuits and systems and liquid crystal devices
Stan Miller rm 3B32 CP2..... 308-4879

2505 Optical measuring and testing systems
Davis Willis rm 2A15 CP2..... 308-4800

2506 Radiant energy systems
Janice Howell rm 3A11 CP2..... 308-4859

2507 Optics, systems and elements, eye examining vision testing and correcting
Bruce Arnold rm 2E16 CP2..... 308-4817

2508 Semiconductor devices and antennas
Rolf Hille rm 4A18 CP2..... 308-4917

2509 Digital logic circuits and photoelectric systems
Edward Westin rm 2E02 CP2..... 308-4823

2600 Communications, Measuring, Testing and Lamp/Discharge Group rm 6C17 CP2..... 308-0962

Director Bobby R. Gray rm 6D11 CP2..... 308-2802
Secretary (Vacant) rm 6D09 CP2..... 308-2802
Deputy Director Michael J. Lynch rm 6D05 CP2..... 308-2802
Secretary Lisa E. Malvaso rm 6D07 CP2..... 308-2802
Special Program Examiner Joseph Orsino rm 6D01 CP2..... 308-0551
Paralegal Iyone L. Miles rm 6D03 CP2..... 308-0962
General Information/Receptionist rm 6C17 CP2..... 308-0962
SAE (Vacant) rm 6A20 CP2..... 308-0550
Team 1 Bertha Evans rm 6D31 CP2..... 308-2198
Team 2 Sharon Hoppe rm 6D19 CP2..... 308-0962
Team 3 Earline Green rm 6C17 CP2..... 308-0962

2601 Telegraphy and telephony
James L. Dwyer rm 5D33 CP2..... 308-4957

2602 Television
James J. Groody rm 8A05 CP2..... 308-4987

2603 Multiplex and digital communications
Douglas W. Olms rm 6A01 CP2..... 308-0491

2604 Electrical communications, acoustic wave systems and electric lamp and discharge devices
Donald J. Yusko rm 7D01 CP2..... 308-0252

2605 Measuring and testing of non-electrical phenomenon
Hezron E. Williams rm 9B32 CP2..... 308-2673

2606 Image analysis and black and white television cameras
David K. Moore rm 5B02 CP2..... 308-1374

2607 Electrical measuring and testing
Kenneth A. Wieder rm 9D31 CP2..... 308-1543

2608 Condition responsive communications and audio systems
Jin F. Ng rm 8B32 CP2..... 308-1256

2609 Selective visual displays
Alvin E. Oberley rm 4B16 CP2..... 308-0322

2611 Telecommunications and measuring and testing of non-electrical phenomenon
Reinhard J. Eisenzopf rm 9D01 CP2..... 308-1499

2612 Facsimile and optical communications
Edward L. Coles, Sr. (Acting) rm 5A03 CP2..... 308-4980

MECHANICAL EXAMINING GROUPS

3100	**Handling and Transporting Media rm 5D19 CP3**	**308-1113**
Director	Frederick R. Schmidt rm 11A02 CP2	308-1134
	Secretary Annette L. Pray rm 11A04 CP2	308-1134
	General Information/Receptionist rm 11C19 CP2	308-1113
	SAE Margaret Stevens rm 11B16 CP2	308-1113
3101	Conveyors, article dispensing, elevators, and sheet feeding or delivering devices Robert Olsgewski rm 10D02 CP2	308-2588
3102	Motor vehicle wheels and bodies, fluid conveying, fire extinguishers and handling implements Margaret Focarino rm 10D32 CP2	308-0885
3103	Brakes, fluid pressure brake systems, spring devices railways, and railway equipment Robert Oberleitner rm 11E16 CP2	308-2569
3104	Spraying devices and land and motor vehicles Andres Kashnikow rm 10E02 CP2	308-1137
3105	Aeronautics and marine arts Joseph F. Peters, Jr. rm 11B02 CP2	308-2561
3106	Land and motor vehicles Charles Marmor rm 10A22 CP2	308-0361
3107	Article handling, check-controlled apparatus, railway track and switches, coin handling, dumping vehicles, merchandising and freight accommodation Robert J. Spar rm 11E02 CP2	308-2555
3108	Dispensing and article assorting Michael Huppert rm 11D16 CP2	308-1107
3200	**Material Shaping, Article Manufacturing, Tools rm 5C17 CP3**	**308-1148**
Director	Nicholas P. Godici rm 5D19 CP3	308-1078
	Secretary Laura Dorsey rm 5D19 CP3	308-1078
	General Information/Receptionist rm 5C17 CP3	308-1148
	SAE Vera Thomas rm 5D21 CP3	308-1730
3201	Metal deforming, packaging machinery, woodworking, and miscellaneous hardware Robert Spruill rm 5E02 CP3	308-1882
3202	Electrical connectors, gear cutting, milling and chucks Larry Schwartz rm 5D35 CP3	308-1412
3203	Abrading, workholders, tools and paper manufactures Bruce Kisliuk rm 4D35 CP3	308-1358
3204	Cutting, cutlery, tools, comminution and wireworking Frank T. Yost rm 4E02 CP3	308-0331
3205	Metal founding, metal turning, miscellaneous hardware, fishing, vermin trapping and welding Richard K. Seidel rm 6D01 CP3	308-2319
3206	Metal working, bookmaking and printed matter (Vacant) rm 5A01 CP3	308-1788
3300	**Surgery, Animal Husbandry, Medical Technology, Amusement and Exercise Devices and Printing rm 4C17 CP4**	**308-0858**
Director	John J. Love rm 4D19 CP4	308-0873
	Secretary Norma L. Watson rm 4D19 CP4	308-0873
	General Information/Receptionist rm 4C17 CP4	308-0858
	SAE Carolyn A. Brown rm 4D21 CP4	308-2192
	PEC Facsimile Center rm 3D56 CP34	308-1353
	Paper Correlating Center rm 3D59 CP34	308-1054

MECHANICAL EXAMINING GROUPS (CONT.)

3301 Surgical instruments, toys, coating implements
Robert Hafer rm 5B24 CP4..... 308-2674

3302 Tobacco, therapy and exercising devices, orthopedics and surgical instruments (endoscopes)
Richard Apley rm 5E02 CP4..... 308-0305

3303 Dentistry, surgical instruments, animal husbandry, educational devices, and toiletries
Gene Mancene rm 5D01 CP4..... 308-2696

3304 Amusement games, and medical therapy
Edward Coven rm 4E16 CP4..... 308-1065

3305 Surgery diagnostics and electrical treatment
Kyle Howell rm 4E02 CP4..... 308-3256

3306 Surgery instruments and medicators
C. Fred Rosenbaum rm 4D01 CP4..... 308-2991

3307 Printing, typewriting, respiratory devices
Edgar Burr rm 5E16 CP4..... 308-0979

3308 Prosthetic devices, medical apparatus
Randall Green rm 4B02 CP4..... 308-2912

3309 Surgical instruments and medicators
Stephen Pellegrino rm 3E02 CP4..... 308-0871

3400 Solar, Heat, Power and Fluid Engineering Devices
rm 3C17 CP4..... 308-0861

Director John E. Kittle rm 3D19 CP4..... 308-0975
Secretary Carol A. Laroda rm 3D19 CP4..... 308-0975
General Information/Receptionist rm 3C17 CP4..... 308-0861
SAE Verlene D. Green rm 3C17 CP4..... 308-0861

3401 Expansible chamber motors, fluid power systems, turbines and combustion
Edward K. Look rm 3B22 CP4..... 308-1044

3402 Internal combustion engines including charge forming and ignition systems
Ethel Cross rm 2D01 CP4..... 308-1946

3403 Jet engines of the air-breathing type, aerospace propulsion systems including solid and liquid fueled rockets, electric and electromagnetic types, gas turbine power plants for vehicles and stationary power generation; turbocharged, supercharged and rotary internal combustion engines, rotary expansible chamber devices, and pumps including expansible chamber, fluid entrainment, and motor-driven types
Richard A. Bertsch rm 3B02 CP4..... 308-0102

3404 Environmental control, including heating, air conditioning, refrigeration and ventilation
Albert J. Makay rm 3D01 CP4..... 308-0101

3406 Devices and methods for illumination, exhaust gas treatment of internal combustion engines, power plants of the type using natural heat, lubrication, stoves and furnaces including heating the environment and extracting heat from the sun, and apparatus for molecular biology and microbiology
Ira S. Lazarus rm 2B02 CP4..... 308-1935

3407 Fluid handling which includes valves, pressure regulators and flow controllers for liquids and gases, heat exchange, and methods for transferring heat from one material to another
Martin P. Schwadron rm 2B42 CP4..... 308-2597

MECHANICAL EXAMINING GROUPS (CONT.)

3500 General Construction, Petroleum and Mining Engineering
rm 3C17 CP3..... 308-2168

Director Al Lawrence Smith rm 3D19 CP3..... 308-1020
Secretary Fran E. Lynah rm 3D19 CP3..... 308-1020
General Information/Receptionist rm 3C17 CP3..... 308-2168
SAE Joyce G. Hill rm 3D13 CP3..... 308-3765

3501 Joints and connections, pipe couplings, fences, earth and hydraulic engineering
Randolph A. Reese rm 3A01 CP3..... 308-2121
3502 Gearing, power transmissions, clutches, machine elements
Leslie A. Braun rm 3E02 CP3..... 308-2156
3504 Building structures and components
David A. Scherbel rm 4A01 CP3..... 308-0839
3505 Supports, racks, fire escapes, ladders, scaffolds, flexible partitions
Carl D. Friedman rm 2B36 CP3..... 308-0830
3506 Petroleum, mining, highway and bridge engineering, well drilling, endless belts
Ramon S. Britts rm 2D35 CP3..... 308-2144
3507 Tables, chairs, cabinets, windows, doors, buckles, buttons, clasps
Kenneth J. Dorner rm 3E16 CP3..... 308-0866
3508 Fasteners, safes, locks, closure fasteners, beds, control levers and linkages
Renee S. Luebke (Acting) rm 4D17 CP3..... 308-0827

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Post Registration
Managing Attorney Jackie Cole rm 10B30 ST.....308-9500 Ext. 40
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Secretary Sophia Brock rm 3B30 ST.....308-9400 Ext. 10
Preexamination
Lottie Coles rm 3B10 ST.....308-9400 Ext. 22
Publication and Issue
Valerie Wells rm 3B10 ST.....308-9400 Ext. 870

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Secretary Lisa Gallo rm 10B10 ST.....308-9000 Ext. 43
Administrator for Petitions and Classification
Jessie N. Marshall rm 10A27 ST.....308-9000 Ext. 28
Secretary Roger Drexler rm 10B10 ST.....308-9000 Ext. 41
Administrator for Trademark Procedures and Special Projects
Mary C. Cipparone rm 10A11 ST.....308-9000 Ext. 46
Secretary Everett J. Henson rm 10B10 ST.308-9000 Ext. 44
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Kathy Dobbs rm 4G01 ST.....308-9103 Ext. 21
Senior Attorney Alan Datri, Ira Goodsaid
Supervisory Application Examiner Ada Rollins
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Sharon Marsh rm 5D13 ST.....308-9104 Ext. 21
Senior Attorney Jay Hines, Mary Francis Bruce
Supervisory Application Examiner Deborah Mays
Managing Attorney Law Office 5.....308-9105
Mary Sparrow rm 5D01 ST.....308-9105 Ext. 21
Senior Attorney Mary Kay McDonald, Henry Zak
Supervisory Application Examiner (Vacant)
Managing Attorney Law Office 6.....308-9106
Myra Kurzbard rm 5G01 ST.....308-9106 Ext. 21
Senior Attorney Robert Feeley
Supervisory Application Examiner Jackie Perry
Managing Attorney Law Office 7.....308-9107
David Shallant rm 6D13 ST.....308-9107 Ext. 21
Senior Attorney Robert Crowe
Supervisory Application Examiner Thurmond Streater
Managing Attorney Law Office 8.....308-9108
Thomas Lamone rm 6D01 ST.....308-9108 Ext. 21
Senior Attorney Sue Carruthers
Supervisory Application Examiner (Vacant)
Managing Attorney Law Office 9.....308-9109
Sidney Moskowitz rm 6G01 ST.....308-9109 Ext. 21
Senior Attorney David Stine, Chris Pedersen
Supervisory Application Examiner (Vacant)
Managing Attorney (Acting) Law Office 10.....308-9110
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Thomas Howell rm 7D01 ST.....308-9111 Ext. 21
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Supervisory Application Examiner Karen McCray
Managing Attorney Law Office 12.....308-9112
Deborah Cohn rm 7G01 ST.....308-9112 Ext. 21
Senior Attorney Nancy Harkin, Craig Taylor
Supervisory Application Examiner Annette Nixon
Managing Attorney Law Office 13.....308-9113
Craig Morris rm 8D13 ST.....308-9113 Ext. 21
Senior Attorney Michael Bodson
Supervisory Application Examiner Janice Hyman

TRADEMARK EXAMINING GROUPS (CONT.)

Managing Attorney Law Office 14.....308-9114
E. Ronald Williams rm 8D01 ST.....308-9114 Ext. 21
Senior Attorney Jerry Price
Supervisory Application Examiner Sylvia Hammett
Managing Attorney Law Office 15.....308-9115
Paul Fahrenkopf rm 8G01 ST.....308-9115 Ext. 21
Senior Attorney John Demos, Terry Rupp
Supervisory Application Examiner (Vacant)

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Manager Loretta Brooks rm 611 PK1..... 305-8505

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Joan Griffey (Acting) rm 908 PK2..... 305-9110
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Secretary Peggy Fewell rm 803 PK1..... 305-8183
Deputy Director G. William Richardson rm 803 PK1..... 305-8183
Security/Safety Officer Thomas J. Kilcullen rm 803 PK1..... 305-8183
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Deputy (Vacant) rm 1A03 CP2..... 308-0792
Incoming-Outgoing Mail Branch
William Rivers rm 1A01 CP2..... 308-0907
Initial Review and Serializing Branch
Shirley Steele rm 1B03 CP2..... 308-0906
(Vacant) rm 1B03 CP2..... 308-1056
Correspondence Branch rm 1A03 CP2..... 308-0901

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Florence Stanmore rm 802C PK1..... 305-8410
Space and Telecommunications Branch
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Office Services Division
Constant G. Fearing rm 803 PK1..... 305-8183
Travel Arrangements rm 803 PK1..... 305-8070
Support Services Branch Robert Fenwick rm 4B20 ST..... 308-7000
Transportation Unit John Holmes rm 4B20 ST..... 308-7010
File Information Unit William Satterwhite rm 1D01 CP3... 308-2733
Official Search Unit Emily Hambrick rm 4B20 ST..... 308-7004

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Deputy Director Mary E. Turowski (Acting) rm 10C13 NT..... 308-9700
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Program Assistant Teresa Knight NT-10..... 308-9743
Secretary Catanya Chandler NT-10..... 308-9743
Maintenance Fee Division
Ruth Lyles NT-10..... 308-9752
Supervisory Legal Technician Bernice Nesbitt NT-10..... 308-9752
Secretary (Vacant) NT-10..... 308-9752
Assignment and Certification Services Division
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Secretary Sissy Bassford NT-10..... 308-9700
Assignment Branch
Audrey Britt (Acting) NT-10..... 308-9706
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Secretary Connie Green NT-10..... 308-9706
Examination Section
Mae Martin (Acting) NT-10..... 308-9710
Digest and Recording Section
Diane Russele NT-10..... 308-9715
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CP1	Crystal Plaza 1, 2001 Jefferson Davis Highway
CP2	Crystal Plaza 2, 2011 Jefferson Davis Highway
CP3	Crystal Plaza 3, 2021 Jefferson Davis Highway
CP4	Crystal Plaza 4, 2201 Jefferson Davis Highway
CP6	Crystal Plaza 6, 2221 Jefferson Davis Highway
CP34	Crystal Plaza 34, 2021 Jefferson Davis Highway
CS5	Crystal Square 5, 1755 Jefferson Davis Highway
PK1	Crystal Park 1, 2011 Crystal Drive
PK2	Crystal Park 2, 2121 Crystal Drive
PK3	Crystal Park 3, 2231 Crystal Drive
NT	North Tower, 2800 Jefferson Davis Highway
ST	South Tower, 2900 Jefferson Davis Highway
FERN	1411 South Fern Street
HCHB	Herbert C. Hoover Building, 14th & Constitution Avenue, N.W.
NEWINGTON	7401 Fullerton Road, Springfield, VA
CINDERBED	8308 Cinderbed Road, Newington, VA

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PATENT AND TRADEMARK OFFICE

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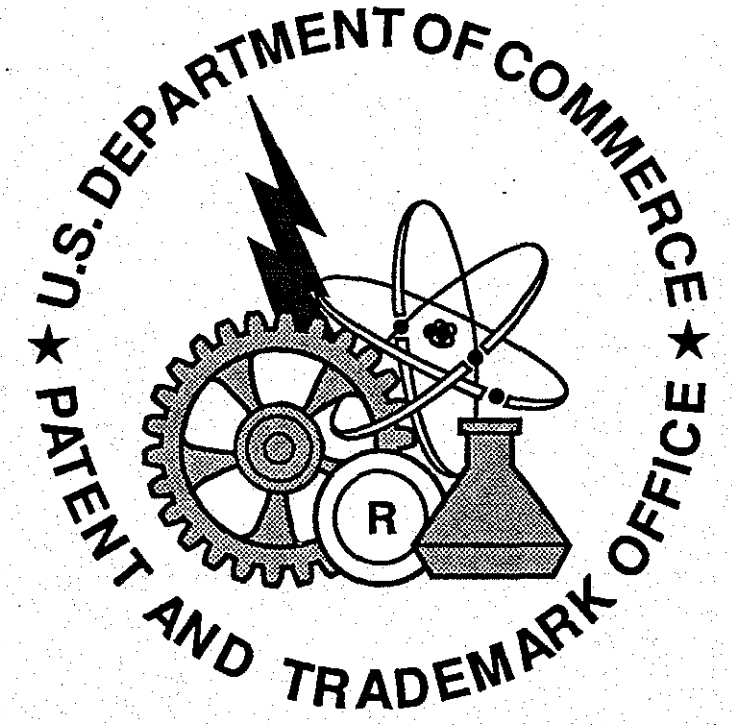
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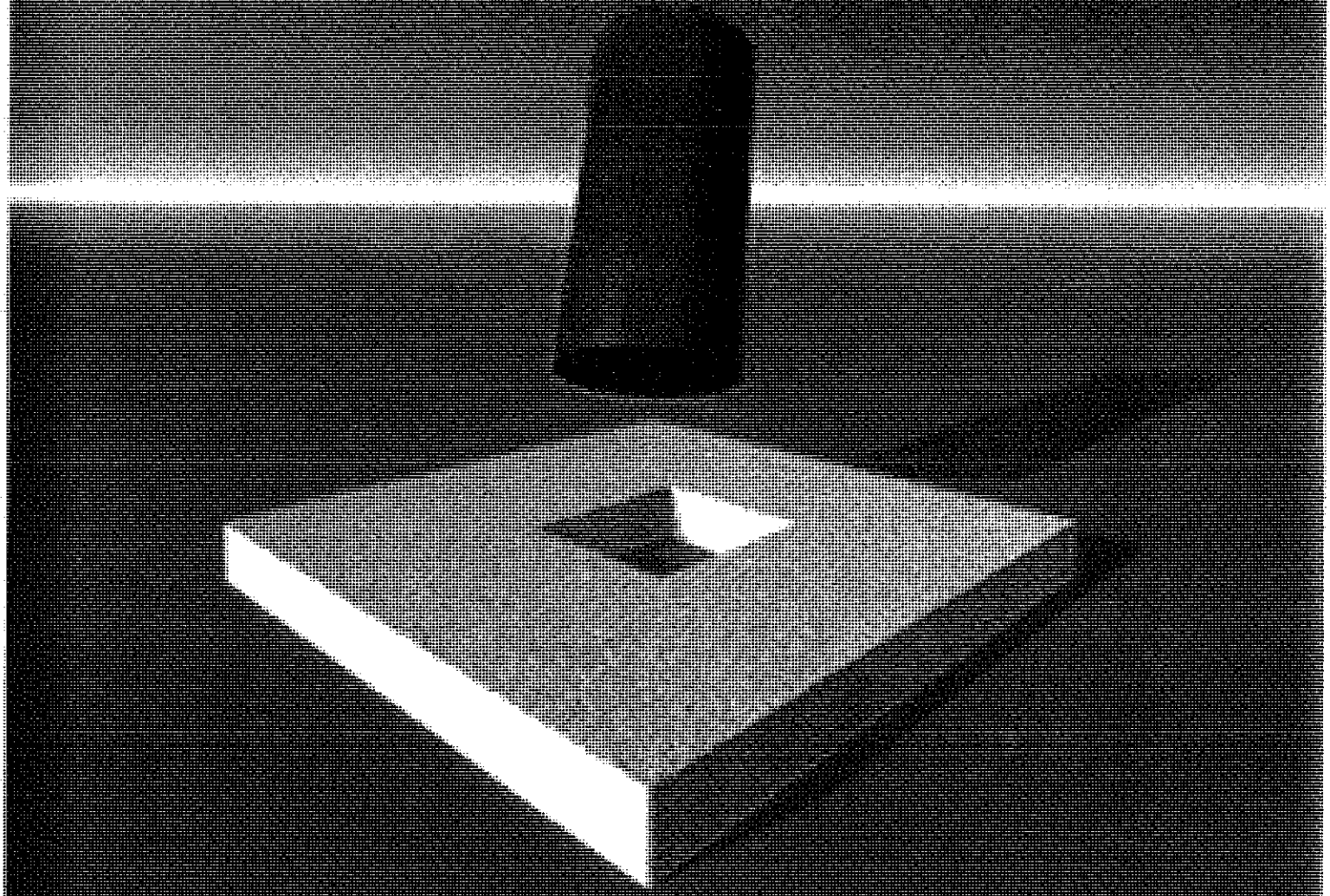
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Technology Transfer Resource Guide

Science and industry working together to create solutions for today's problems



Produced by the

National Technology Transfer Center

Wheeling Jesuit University, 316 Washington Avenue, Wheeling, WV 26003

PREFACE

This book was developed by the National Technology Transfer Center (NTTC) in an effort to positively effect the success of commercializing U.S. federally funded technologies.

It is the goal of the NTTC to create partnerships between the federal labs, private sector, universities, and economic development organizations through the dissemination of information on the processes involved in technology transfer and commercialization.

These materials were originally developed for various training courses which the NTTC offers to its clients. Information on the courses offered by the NTTC can be found in the back of this book.

We are sure this manual will prove to be a useful resource guide for you and your organization. We will continue to expand and update these materials in order to assure that it is current and comprehensive. If there are important aspects of technology transfer and commercialization which you feel should be addressed in this book, please feel free to contact us. As always, we appreciate the input of those individuals working in the field of technology commercialization.

For more information on the services and training courses provided by the NTTC, please contact us at:

National Technology Transfer Center
Wheeling Jesuit University
316 Washington Avenue
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Section F. **Technology Transfer Mechanisms** **Page 80**

Provides detailed information on the various types of mechanisms used by federal labs and universities when partnering with the private sector to commercialize technologies. Information is also provided on federally funded technology transfer programs established to assist the private sector in commercializing federally funded technologies.

Section G. **Intellectual Property Protection** **Page 98**

Patents, copyright protection, trademarks, and ownership of intellectual property are just a few of the diverse aspects of intellectual property covered in the section. Tips on the use of a laboratory notebook in establishing intellectual property rights are also provided.

Section H. **Sample Forms** **Page 113**

- Cooperative Research and Development Agreement
- NASA Nonreimbursable Space Act Agreement
- Patent Licensing Agreement
- Small Business Innovation Research (SBIR) Application
- Copyright Application
- Trademark Application
- Record and Disclosure of Invention
- Application for License to Practice Invention

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SECTION A

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SECTION B

GLOSSARY

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Passive Mode of Technology Transfer: The potential adopter of technology must search for suitable technologies by either contacting R&D performers or examining archives for the results of R&D

Patent Licensing Agreement (PLA): allows the other party to use the invention for his or her own purposes for a specified time and in exchange for a fee (royalty) to be paid to the patent holder

Patent: a grant or property right given by the government to the inventor; the patent gives the inventor the right to take action which excludes others from making, using, or selling the invention for a period of 17 years but does not automatically restrict infringement

Personnel Exchanges: provide an opportunity for federal lab engineers and scientists to receive an insider's look at external laboratories where new ideas, process improvements, enhancements, shortcuts, and long cuts can take place

Record of Invention and Disclosure Form: assists a federal employee in documenting and reporting an invention

Semiactive Mode of Technology Transfer: a search facilitator or "transfer agent" (ORTA) is added to the technology transfer system; this person helps users identify technical solutions and sometimes has the capability to help evaluate technologies

Spin-Off Technology Transfer: the transfer of technology originally developed by a defense organization for defense purposes to a nondefense organization that intends to apply the technology to nondefense or commercial purposes

Spin-On Technology Transfer: the transfer of technology originally developed by a nondefense organization for nondefense purposes to a defense organization that intends to apply the technology to defense purposes

Technology Transfer: the sharing of knowledge and facilities among federal laboratories, other federal activities, industry, academia, and state and local governments

Technology Push: drives the technology transfer process when an innovator sees an opportunity to profit from a technology that has little or no current market

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SECTION C

TECHNOLOGY TRANSFER LEGISLATION

Definition of Technology Transfer

Summary of Various Pieces of Technology Transfer Legislation

Overall Goal of Technology Transfer and Commercialization

U.S. Code Annotated, Title 15, Chapter 63, Commerce and Trade:

Federal Technology Transfer Legislation and Executive Orders

- 15 USC 3710, Utilization of Federal Technology
- 15 USC 3710a, Cooperative Research and Development Agreements
- 15 USC 3710b, Rewards of Scientific, Engineering, and Technical Personnel of Federal Agencies
- 15 USC 3710c, Distribution of Royalties Received by Federal Agencies
- 15 USC 3710d, Employee Activities
- Executive Order 12591

Federal Statutes

- 28 USC 1498, Patent and Copyright Cases
- 35 USC 200 et seq, Patent Rights in Inventions Made with Federal Assistance
- 18 USC 1905, Disclosure of Confidential Information Generally

Code of Federal Regulations

- 37 CFR, Chapter 4, Part 404, Licensing of Government Owned Inventions

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- The need for short term profits, downsizing, and the cost of conducting research are driving industry's reduction in basic R&D. Currently, the focus of private sector research is on applied R&D. By leveraging the resources at the federal labs and universities, private industry can maximize its research investments.

Defining Technology Transfer

There is no widely accepted definition of technology transfer. Technology transfer can mean different things to different people, but, generally speaking, technology transfer is **the sharing of knowledge and facilities among the following groups:**

- Federal laboratories
- Industry
- Universities
- Federal, state, and local governments
- Third party intermediaries

The concept of technology transfer as a practical matter becomes clearer when one understands what technology transfer is designed to accomplish. For instance, the purpose of a federal technology transfer program is to make federally generated scientific and technological developments accessible to private industry and state and local governments. These users are then encouraged to develop the technology further into new products, processes, materials, or services that will enhance our nation's industrial competitiveness or otherwise improve our quality of life.

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- Make technology transfer a responsibility of all federal laboratory scientists and engineers, requiring laboratory management to consider technology transfer activities in employee performance evaluations.
- Create a charter for the Federal Laboratory Consortium (FLC) for Technology Transfer.

Create royalty sharing with federal scientists and engineers.

Bayh-Dole Patents and Trademark Amendments Act of 1980

The passing of the Bayh-Dole Patents and Trademark Amendments Act facilitated partnerships in technology commercialization between university operated laboratories, government, and industry. It allowed universities, nonprofit organizations, and small businesses to retain certain rights related to inventions they developed under funding agreements with the government.

Impact of Bayh-Dole

- The amount of industry funds invested in university R&D has increased an incredible 160% since 1980.
- The number of patents being produced by universities has increased 500% since 1980. (Universities filed 230 patents in 1976 and 1,346 in 1991.)
- Universities have succeeded in balancing their educational and economic missions. (University publications have increased since the passage of the Bayh-Dole Act.)
- State governments are now targeting universities as engines for economic growth.
- The Act created the unequaled U.S. biotechnology industry. (The biotech industry is clustered around the major universities.)
- University R&D is responsible for the development of 44% of all new U.S. drugs and 37% of all new pharmaceutical processes.

A brief overview of all the key technology transfer legislative and executive actions is provided in the table on the following page. Pertinent sections of the United States Code as modified by these legislative and executive actions appear in this section.

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YEAR	NAME	KEY POINTS
1989	National Competitiveness Technology Transfer Act (NCTTA)	Amended the Stevenson-Wydler Act to establish technology transfer as a federal laboratory mission and permit CRADAs for GOCOs (government-owned, contractor-operated laboratory)
1991	American Technology Preeminence Act	Extended the FLC mandate through 1996, allowed the exchange of intellectual property between participants in a CRADA, and allowed laboratory directors to give excess equipment to nonprofit organizations as a gift
1992	Small Business Technology Transfer Act	Established the Small Business Technology Transfer Research (STTR) Program (See Technology Transfer Mechanisms module for information on STTR)
1995	National Technology Transfer and Advancement Act	Created Significant incentives for prompt commercialization of new technologies developed under a CRADA and established guidelines to expedite CRADA negotiations

A Win-Win Situation

In the current environment of decreasing budgets and less financial support available for federal R&D, technology transfer can supplement existing resources to federal laboratories. Dollars acquired through patent licensing agreements and cost shared R&D from private sector partners through cooperative agreements will:

- Illustrate the relevance of laboratories and R&D to the U.S. economy.
- Leverage government R&D expenditures.
- Reward laboratory staff through performance awards, royalties, or cash awards.
- Leverage federal lab R&D through cost shared research.
- Provide an opportunity to work with peer researchers.

Through technology commercialization, the federal laboratories can become a regional asset to the community and underscore their national importance. Federal

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LAWS AND REGULATIONS

Federal Technology Transfer Legislation and Executive Orders

- 15 USC 3710, Utilization of Federal Technology
- 15 USC 3710a, Cooperative Research and Development Agreements
- 15 USC 3710b, Rewards of Scientific, Engineering, and Technical Personnel of Federal Agencies
- 15 USC 3710c, Distribution of Royalties Received by Federal Agencies
- 15 USC 3710d, Employee Activities
- Executive Order 12591

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It shall be the function of each Office of Research and Technology Applications-

(1) to prepare application assessments for selected research and development projects in which that laboratory is engaged and which in the opinion of the laboratory may have potential commercial applications;

(2) to provide and disseminate information on federally owned or originated products, processes, and services having potential application to State and local governments and to private industry;

(3) to cooperate with and assist the National Technical Information Service, the Federal Laboratory Consortium for Technology Transfer, and other organizations which link the research and development resources of that laboratory and the Federal Government as a whole to potential users in State and local government and private industry;

(4) to provide technical assistance to State and local government officials; and

(5) to participate, where feasible, in regional, State, and local programs designed to facilitate or stimulate the transfer of technology for the benefit of the region, State, or local jurisdiction in which the Federal laboratory is located.

Agencies which have established organizational structures outside their Federal laboratories which have as their principal purpose the transfer of federally owned or originated technology to State and local government and to the private sector may elect to perform the functions of this subsection in such organizational structures. No Office of Research and Technology Applications or other organizational structures performing the functions of this subsection shall substantially compete with similar services available in the private sector.

(d) Dissemination of technical information

The National Technical Information Service shall—

(1) serve as a central clearinghouse for the collection, dissemination and transfer of information on federally owned or originated technologies having potential application to State and local governments and to private industry;

(2) utilize the expertise and services of the National Science Foundation and the Federal Laboratory Consortium for Technology Transfer; particularly in dealing with state and local governments;

(3) receive requests for technical assistance from State and local governments, respond to such requests with published information available to the

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(E) utilize (with the consent of the agency involved) the expertise and services of the National Science Foundation, the Department of Commerce, the National Aeronautics and Space Administration, and other Federal agencies, as necessary;

(F) with the consent of any Federal laboratory, facilitate the use by such laboratory of appropriate technology transfer mechanisms such as personnel exchanges and computer-based systems;

(G) with the consent of any Federal laboratory, assist such laboratory to establish programs using technical volunteers to provide technical assistance to communities related to such laboratory;

(H) facilitate communication and cooperation between Offices of Research and Technology Applications of Federal laboratories and regional, State, and local technology transfer organizations;

(I) when requested, assist colleges or universities, businesses, nonprofit organizations, State or local governments, or regional organizations to establish programs to stimulate research and to encourage technology transfer in such areas as technology program development, curriculum design, long-term research planning, personnel needs projections, and productivity assessments; and

(J) seek advice in each Federal laboratory consortium region from representatives of State and local governments, large and small business, universities, and other appropriate persons on the effectiveness of the program (and any such advice shall be provided at no expense to the Government).

(2) The membership of the Consortium shall consist of the Federal laboratories described in clause (1) of subsection (b) of this section and such other laboratories as may choose to join the Consortium. The representatives to the Consortium shall include a senior staff member of each Federal laboratory which is a member of the Consortium and a representative appointed from each Federal agency with one or more member laboratories.

(3) The representatives to the Consortium shall elect a Chairman of the Consortium.

(4) The Director of the National Institute of Standards and Technology shall provide the Consortium, on a reimbursable basis, with administrative services, such as office space, personnel, and support services of the Institute, as requested by the Consortium and approved by such Director.

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transfer technology from the Federal laboratories, and to advance State and local economic activity.

(B) The demonstration projects established under subparagraph (A) shall serve as model programs. Such projects shall be designed to develop programs and mechanisms for technology transfer from the Federal laboratories which may be utilized by the States and which will enhance Federal, State, and local programs for the transfer of technology.

(C) Application for such grants, awards, or agreements shall be in such form and contain such information as the Consortium or its designee shall specify.

(D) Any person who receives or utilizes any proceeds of a grant or award made, or agreement entered into, under this paragraph shall keep such records as the Consortium or its designee shall determine are necessary and appropriate to facilitate effective audit and evaluation, including records which fully disclose the amount and disposition of such proceeds and the total cost of the project in connection with which such proceeds were used.

(f) Agency reporting

Each Federal agency which operates or directs one or more Federal laboratories shall report annually to the Congress, as part of the agency's annual budget submission, on the activities performed by that agency and its Federal laboratories pursuant to the provisions of this section.

(g) Functions of Secretary

(1) The Secretary, through the Under Secretary, and in consultation with other Federal agencies, may—

(A) make available to interested agencies the expertise of the Department of Commerce regarding the commercial potential of inventions and methods and options for commercialization which are available to the Federal laboratories, including research and development limited partnerships;

(B) develop and disseminate to appropriate agency and laboratory personnel model provisions for use on a voluntary basis in cooperative research and development arrangements; and

(C) furnish advice and assistance, upon request, to Federal agencies concerning their cooperative research and development programs and projects.

(2) Two years after October 20, 1986 and every two years thereafter, the Secretary shall submit a summary report to the President and the Congress on the

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§ 3710a. Cooperative research and development agreements

(a) General authority

Each Federal agency may permit the director of any of its Government-operated Federal laboratories, and, to the extent provided in an agency-approved joint work statement, the director of any of its Government-owned, contractor-operated laboratories—

(1) to enter into cooperative research and development agreements on behalf of such agency (subject to subsection (c) of this section) with other Federal agencies; units of State or local government; industrial organizations (including corporations, partnerships, and limited partnerships, and industrial development organizations); public and private foundations; nonprofit organizations (including universities); or other persons (including licensees of inventions owned by the Federal agency); and

(2) to negotiate licensing agreements under section 207 of Title 35, or under other authorities (in the case of a Government-owned, contractor-operated laboratory, subject to subsection (c) of this section) for inventions made or other intellectual property developed at the laboratory and other inventions or other intellectual property that may be voluntarily assigned to the Government.

(b) Enumerated authority

Under agreements entered into pursuant to subsection (a)(1) of this section, a Government-operated Federal laboratory, and, to the extent provided in an agency-approved joint work statement, a Government-owned, contractor-operated laboratory, may (subject to subsection (c) of this section)—

(1) accept, retain, and use funds, personnel, services, and property from collaborating parties and provide personnel, services, and property to collaborating parties;

(2) grant or agree to grant in advance, to a collaborating party, patent licenses or assignments, or options thereto, in any invention made in whole or in part by a laboratory employee under the agreement, retaining a nonexclusive, nontransferable, irrevocable, paid-up license to practice the invention or have the invention practiced throughout the world by or on behalf of the Government and such other rights as the Federal laboratory deems appropriate;

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(B) If, in implementing subparagraph (A), an agency is unable to resolve potential conflicts of interest within its current statutory framework, it shall propose necessary statutory changes to be forwarded to its authorizing committees in Congress.

(4) The laboratory director in deciding what cooperative research and development agreements to enter into shall—

(A) give special consideration to small business firms, and consortia involving small business firms; and

(B) give preference to business units located in the United States which agree that products embodying inventions made under the cooperative research and development agreement or produced through the use of such inventions will be manufactured substantially in the United States and, in the case of any industrial organization or other person subject to the control of a foreign company or government, as appropriate, take into consideration whether or not such foreign government permits United States agencies, organizations, or other persons to enter into cooperative research and development agreements and licensing agreements.

(5) **(A)** If the head of the agency or his designee desires an opportunity to disapprove or require the modification of any such agreement presented by the director of a Government-operated laboratory, the agreement shall provide a 30-day period within which such action must be taken beginning on the date the agreement is presented to him or her by the head of the laboratory concerned.

(B) In any case in which the head of an agency or his designee disapproves or requires the modification of an agreement presented, by the director of a Government-operated laboratory under this section, the head of the agency or such designee shall transmit a written explanation of such disapproval or modification to the head of the laboratory concerned.

(C) **(i)** Any agency which has contracted with a non-Federal entity to operate a laboratory shall review and approve, request specific modifications to, or disapprove a joint work statement that is submitted by the director of such laboratory within 90 days after such submission. In any case where an agency has requested specific modifications to a joint work statement, the agency shall approve or disapprove any resubmission of such joint work statement within 30 days after such resubmission, or 90 days after original submission, whichever occurs later. No agreement may be entered into by a Government-owned, contractor-operated laboratory under this section before both approval of the agreement under clause (iv) and approval under this clause of a joint work statement.

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(B) The director, or in the case of a contractor-operated laboratory, the agency, for a period of up to 5 years after development of information that results from research and development activities conducted under this chapter and that would be a trade secret or commercial or financial information that is privileged or confidential if the information had been obtained from a non-Federal party participating in a cooperative research and development agreement, may provide appropriate protection against the dissemination of such information, including exemption from subchapter II of chapter 5 of Title 5.

(d) Definitions

As used in this section—

(1) the term "cooperative research and development agreement" 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, 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, or other resources toward the conduct of specified research or development efforts which are consistent with the missions of the laboratory; except that such term does not include a procurement contact or cooperative agreement as those terms are used in sections 6303, 6304, and 6305 of Title 31;

(2) the term "laboratory" means—

(A) a facility or group of facilities owned, leased, or otherwise used by a Federal agency, a substantial purpose of which is the performance of research, development, or engineering by employees of the Federal Government;

(B) a group of Government-owned, contractor-operated facilities under a common contract, when a substantial purpose of the contract is the performance of research and development for the Federal Government; and

(C) a Government-owned, contractor-operated facility that is not under a common contract described in subparagraph (B), and the primary purpose of which is the performance of research and development for the Federal Government, but such term does not include any facility covered by Executive Order No. 12344, dated February 1, 1982, pertaining to the Naval nuclear propulsion program; and

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§ 3710b. Rewards for scientific, engineering, and technical personnel of federal agencies

The head of each Federal agency that is making expenditures at a rate of more than $50,000,000 per fiscal year for research and development in its Government-operated laboratories shall use the appropriate statutory authority to develop and implement a cash awards program to reward its scientific, engineering, and technical personnel for-

(1) inventions, innovations, computer software, or other outstanding scientific or technological contributions of value to the United States due to commercial application or due to contributions to missions of the Federal agency or the Federal government, or

(2) exemplary activities that promote the domestic transfer of science and technology development within the Federal Government and result in utilization of such science and technology by American industry or business, universities, State or local governments, or other non-Federal parties.

(Pub.L. 96-480, § 13, as added and renumbered § 12, Pub.L. 99-502, §§ 6, 9(e)(1), Oct. 20, 1986, 100 Stat. 1792, 1797; renumbered § 13, Pub.L. 100-418, Title V, § 5122(a)(1), Aug. 23, 1988, 102 Stat. 1438; Pub.L. 100-519, Title III, § 302, Oct. 24, 1988, 102 Stat. 2597.)

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(iii) An agency that has published its intention to promulgate regulations under clause (ii) may elect not to pay inventors under clause (i) until the expiration of two years after October 20, 1986 or until the date of the promulgation of such regulations, whichever is earlier. If an agency makes such an election and after two years the regulations have not been promulgated, the agency shall make payments (in accordance with clause (i)) of at least 15 percent of the royalties involved, retroactive to October 20, 1986. If promulgation of the regulations occurs within two years after October 20, 1986, payments shall be made in accordance with such regulations, retroactive to October 20, 1986. The agency shall retain its royalties until the inventor's portion is paid under either clause (i) or (ii). Such royalties shall not be transferred to the agency's Government-operated laboratories under subparagraph (B) and shall not revert to the Treasury pursuant to paragraph (2) as a result of any delay caused by rulemaking under this subparagraph.

(B) The balance of the royalties or other income shall be transferred by the agency to its Government-operated laboratories, with the majority share of the royalties or other income from any invention going to the laboratory where the invention occurred; and the funds so transferred to any such laboratory may be used or obligated by that laboratory during the fiscal year in which they are received or during the succeeding fiscal year-

(i) for payment of expenses incidental to the administration and licensing of inventions by that laboratory or by the agency with respect to inventions which occurred at that laboratory, including the fees or other costs for the services of other agencies, persons, or organizations for invention management and licensing services;

(ii) to reward scientific, engineering, and technical employees of that laboratory, including payments to inventors and developers of sensitive or classified technology, regardless of whether the technology has commercial applications;

(iii) to further scientific exchange among the Government-operated laboratories of the agency; or

(iv) for education and training of employees consistent with the research and development mission and objectives of the agency, and for other activities that increase the licensing potential for transfer of the technology of the laboratories of the agency.

Any of such funds not so used or obligated by the end of the fiscal year succeeding the fiscal year in which they are received shall be paid into the Treasury of the United States.

(2) If, after payments to inventors under paragraph (1), the royalties received by an agency in any fiscal year exceed 5 percent of the budget of the Government-

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(2) The Comptroller General, five years after October 20, 1986, shall review the effectiveness of the various royalty-sharing programs established under this section and report to the appropriate committees of the House of Representatives and the Senate, in a timely manner, his findings, conclusions, and recommendations for improvements in such programs.

(Pub.L. 96-480, § 14, as added, renumbered § 13 and amended Pub.L. 99-502, §§ 7, 9(e)(1), (3), Oct. 20, 1986, 100 Stat. 1792, 1797; renumbered § 14 and amended Pub.L. 100-418, Title V, §§ 5122(a)(1), 5162(a), Aug. 23, 1988, 102 Stat. 1438, 1450; Pub.L. 100-519, Title III, § 303(a), Oct. 24, 1988, 102 Stat. 2597; Pub.L. 101-189, Div. C, Title XXXI, § 3133(c), Nov. 29, 1989, 103 Stat. 1677, 1678.)

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EXECUTIVE ORDERS
EXECUTIVE ORDER NO. 12591
Apr. 10, 1987, 52 F.R. 13414, as amended Ex.Ord. No. 12618,
Dec. 22, 1987, 52 F.R. 48661
FACILITATING ACCESS TO SCIENCE AND TECHNOLOGY

By the authority vested in me as President by the Constitution and laws of the United States of America, including the Federal Technology Transfer Act of 1986 [Public Law 99-502] [Pub.L. 99-502, Oct. 20, 1986, 100 Stat. 1785], the Trademark Clarification Act of 1984 [Public Law 98-260] [Pub.L. 98-620, Nov. 8, 1984, 98 Stat. 3335], and the University and Small Business Patent Procedure Act of 1980 [Public Law 96-517] [Pub.L. 96-517, Dec. 12, 1980, 94 Stat. 3015], and in order to ensure that Federal agencies and laboratories assist universities and the private sector in broadening our technology base by moving new knowledge from the research laboratory into the development of new products and processes, it is hereby ordered as follows:

Section 1. Transfer of Federally Funded Technology

(a) The head of each Executive department and agency, to the extent permitted by law, shall encourage and facilitate collaboration among Federal laboratories, State and local governments, universities, and the private sector, particularly small business, in order to assist in the transfer of technology to the marketplace.

(b) The head of each Executive department and agency shall, within overall funding allocations and to the extent permitted by law:

(1) delegate authority to its government-owned, government-operated Federal laboratories:

(A) to enter into cooperative research and development agreements with other Federal laboratories, State and local governments, universities, and the private sector; and

(B) to license, assign, or waive rights to intellectual property developed by the laboratory either under such cooperative research or development agreements and from within individual laboratories.

(2) identify and encourage persons to act as conduits between and among Federal laboratories, universities, and the private sector for the transfer of technology developed from federally funded research and development efforts;

(3) ensure that State and local governments, universities, and the private sector are provided with information on the technology, expertise, and facilities available in Federal laboratories;

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(b) Establish a mechanism through which the laboratory performs research in areas identified in Section 2(a) as a participant of a consortium composed of United States industries and universities. All consortia so established shall have, at a minimum, three individual companies that conduct the majority of their business in the United States; and

(c) Limit its participation in any consortium so established to the use of laboratory personnel and facilities. However, each laboratory may also provide financial support generally not to exceed 25 percent of the total budget for the activities of the consortium. Such financial support by any laboratory in all such consortia shall be limited to a maximum of $5 million per annum.

Sec. 3. Technology Exchange — Scientists and Engineers

The Executive Director of the President's Commission on Executive Exchange shall assist Federal agencies, where appropriate, by developing and implementing an exchange program whereby scientists and engineers in the private sector may take temporary assignments in Federal laboratories, and scientists and engineers in Federal laboratories may take temporary assignments in the private sector.

Sec. 4. International Science and Technology

In order to ensure that the United States benefits from and fully exploits scientific research and technology developed abroad,

(a) The head of each Executive department and agency, when negotiating or entering into cooperative research and development agreements and licensing arrangements with foreign persons or industrial organizations (where these entities are directly or indirectly controlled by a foreign company or government], shall, in consultation with the United States Trade Representative, give appropriate considerations:

(1) to whether such foreign companies or governments permit and encourage United States agencies, organizations, or persons to enter into cooperative research and development agreements and licensing arrangements on a comparable basis;

(2) to whether those foreign governments have policies to protect the United States intellectual property rights; and

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(1) a listing of current technology transfer programs and an assessment of the effectiveness of these programs;

(2) identification of new or creative approaches to technology transfer that might serve as model programs for Federal laboratories;

(3) criteria to assess the effectivenes's and impact on the Nation's economy of planned or future technology transfer efforts; and

(4) a compilation and assessment of the Technology Share Program established in Section 2 and, where appropriate, related cooperative research and development venture programs.

Sec. 8. Relation to Existing Law

Nothing in this Order shall affect the continued applicability of any existing laws or regulations relating to the transfer of United States technology to other nations. The head of any Executive department or agency may exclude from consideration, under this Order, any technology that would be, if transferred, detrimental to the interests of national security.

Ronald Reagan

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28 USC 1498 PATENT AND COPYRIGHT CASES

(a) Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner's remedy shall be by action against the United States in the United States Claims Court for the recovery of his reasonable and entire compensation for such use and manufacture.

For the purposes of this section, the use or manufacture of an invention described in and covered by a patent of the United States by a contractor, a subcontractor, or any person, firm, or corporation for the Government and with the authorization or consent of the Government, shall be construed as use or manufacture for the United States.

The court shall not award compensation under this section if the claim is based on the use or manufacture by or for the United States of any article owned, leased, used by, or in the possession of the United States prior to July 1, 1918.

A Government employee shall have the right to bring suit against the Government under this section except where he was in a position to order, influence, or induce use of the invention by the Government. This section shall not confer a right of action on any patentee or any assignee of such patentee with respect to any invention discovered or invented by a person while in the employment or service of the United States, where the invention was related to the official functions of the employee, in cases in which such functions included research and development, or in the making of which Government time, materials or facilities were used.

(b) Hereafter, whenever the copyright in any work protected under the copyright laws of the United States shall be infringed by the United States, by a corporation owned or controlled by the United States, or by a contractor, subcontractor, or any person, firm, or corporation acting for the Government and with the authorization or consent of the Government, the exclusive remedy of the owner of such copyright shall be by action against the United States in the Claims Court for the recovery of his reasonable and entire compensation as damages for such infringement, including the minimum statutory damages as set forth in section 504(c), of title 17, United States Code: *Provided,* That a Government employee shall have a right of action against the Government under this subsection except where he was in a position to order, influence, or induce use of the copyrighted work by the Government: *Provided, however,* That this subsection shall not confer a right of action on any copyright owner or any assignee of such owner with respect to any copyrighted work prepared by a person while in the employment or service of the United States, where the copyrighted work was prepared as a part of the official functions of the employee, or in the preparation of which Government time, material, or facilities were used: *And provided*

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(As amended Oct. 19, 1976, Pub.L. 94-553, § 105(c), 90 Stat. 2599; Apr. 2, 1982, Pub.L. 97-164, Title I, § 133(d), 96 Stat. 40; Nov. 19, 1988, Pub.L. 100-702, Title X, § 1020(a)(6), 102 Stat. 4671.)

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(e) The term "subject invention" means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement: *Provided*, That in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act (7 U.S.C. 2401(d)) must also occur during the period of contract performance.

(f) The term "practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

(g) The term "made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(h) The term "small business firm" means a small business concern as defined at section 2 of Public Law 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration.

(i) The term "nonprofit organization" means universities and other institutions of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

(As amended Pub.L. 98-620, Title V, § 501(1), (2), Nov. 8, 1984, 98 Stat. 3364.)

§ 202. Disposition of rights

(a) Each nonprofit organization or small business firm may, within a reasonable time after disclosure as required by paragraph (c)(1) of this section, elect to retain title to any subject invention: *Provided, however,* That a funding agreement may provide otherwise (i) when the contractor is not located in the United States or does not have a place of business located in the United States or is subject to the control of a foreign government, (ii) in exceptional circumstances when it is determined by the agency that restriction or elimination of the right to retain title to any subject invention will better promote the policy and objectives of this chapter (iii) when it is determined by a Government authority which is authorized by statute or Executive order to conduct foreign intelligence or counter-intelligence activities that the restriction or elimination of the right to retain title to any subject invention is necessary to protect the security of such activities or,[1] iv) when the funding agreement includes the operation of a

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(1) That the contractor disclose each subject invention to the Federal agency within a reasonable time after it becomes known to contractor personnel responsible for the administration of patent matters, and that the Federal Government may receive title to any subject invention not disclosed to it within such time.

(2) That the contractor make a written election within two years after disclosure to the Federal agency (or such additional time as may be approved by the Federal agency) whether the contractor will retain title to a subject invention: *Provided,* That in any case where publication, on sale, or public use, has initiated the one year statutory period in which valid patent protection can still be obtained in the United States, the period for election may be shortened by the Federal agency to a date that is not more than sixty days prior to the end of the statutory period: *And provided further,* That the Federal Government may receive title to any subject invention in which the contractor does not elect to retain rights or fails to elect rights within such times.

(3) That a contractor electing rights in a subject invention agrees to file a patent application prior to any statutory bar date that may occur under this title due to publication, on sale, or public use, and shall thereafter file corresponding patent applications in other countries in which it wishes to retain title within reasonable times, and that the Federal Government may receive title to any subject inventions in the United States or other countries in which the contractor has not filed patent applications on the subject invention within such times.

(4) With respect to any invention in which the contractor elects rights, the Federal agency shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States any subject invention throughout the world: *Provided,* That the funding agreement may provide for such additional rights;[3] including the right to assign or have assigned foreign patent rights in the subject invention, as are determined by the agency as necessary for meeting the obligations of the United States under any treaty, international agreement, arrangement of cooperation, memorandum of understanding, or similar arrangement, including military agreement relating to weapons development and production.

(5) The right of the Federal agency to require periodic reporting on the utilization or efforts at obtaining utilization that are being made by the contractor or his licensees or assignees: *Provided,* That any such information as well as any information on utilization or efforts at obtaining utilization obtained as part of a proceeding under section 203 of this chapter shall be treated by the Federal agency as commercial and financial information obtained from a person and privileged and confidential and not subject to disclosure under section 552 of title 5 of the United States Code.

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Federal agency employing such coinventor is authorized to transfer or assign whatever rights it may acquire in the subject invention from its employee to the contractor subject to the conditions set forth in this chapter.

(f) (1) No funding agreement with a small business firm or nonprofit organization shall contain a provision allowing a Federal agency to require the licensing to third parties of inventions owned by the contractor that are not subject inventions unless such provision has been approved by the head of the agency and a written justification has been signed by the head of the agency. Any such provision shall clearly state whether the licensing may be required in connection with the practice of a subject invention, a specifically identified work object, or both. The head of the agency may not delegate the authority to approve provisions or sign justifications required by this paragraph.

(2) A Federal agency shall not require the licensing of third parties under any such provision unless the head of the agency determines that the use of the invention by others is necessary for the practice of a subject invention or for the use of a work object of the funding agreement and that such action is necessary to achieve the practical application of the subject invention or work object. Any such determination shall be on the record after an opportunity for an agency hearing. Any action commenced for judicial review of such determination shall be brought within sixty days after notification of such determination.

(As amended Pub.L. 98-620, Title V, § 501(3)-(8), Nov. 8, 1984, 98 Stat. 3364-3366; Pub.L. 102-204, § 10, Dec. 10, 1991, 105 Stat. 1641.)

[1] So in original. An open parenthesis probably should have been inserted here.

[2] So in original. Directory language of Pub.L. 98-620 resulted in two periods following "Department of Energy".

[3] So in original. A comma was probably intended.

§ 203. March-in rights

(1.)[1] With respect to any subject invention in which a small business firm or nonprofit organization has acquired title under this chapter, the Federal agency under whose funding agreement the subject invention was made shall have the right, in accordance with such procedures as are provided in regulations promulgated hereunder to require the contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under

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§ 204. Preference for United States industry

Notwithstanding any other provision of this chapter, no small business firm or nonprofit organization which receives title to any subject invention and no assignee of any such small business firm or nonprofit organization shall grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency under whose funding agreement the invention was made upon a showing by the small business firm, nonprofit organization, or assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(Added Pub.L. 86-517, § 6(a), Dec. 12, 1980, 94 Stat. 3023).

§ 205. Confidentiality

Federal agencies are authorized to withhold from disclosure to the public information disclosing any invention in which the Federal Government owns or may own a right, title, or interest (including a nonexclusive license) for a reasonable time in order for a patent application to be filed. Furthermore, Federal agencies shall not be required to release copies of any document which is part of an application for patent filed with the United States Patent and Trademark Office or with any foreign patent office.

(Added Pub.L. 96-517, § 6(a), Dec. 12, 1980, 94 Stat. 3023).

§ 206. Uniform clauses and regulations

The Secretary of Commerce may issue regulations which may be made applicable to Federal agencies implementing the provisions of sections 202 through 204 of this chapter and shall establish standard funding agreement provisions required under this chapter. The regulations and the standard funding agreement shall be subject to public comment before their issuance.

(As amended Pub.L. 98-620, Title V, § 501(10), Nov. 8, 1984, 98 Stat. 3367.)

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§ 210. Precedence of chapter

(a) This chapter shall take precedence over any other Act which would require a disposition of rights in subject inventions of small business firms or nonprofit organizations contractors in a manner that is inconsistent with this chapter, including but not necessarily limited to the following:

(1) section 10(a) of the Act of June 29, 1935, as added by title I of the Act of August 14, 1946 (7 U.S.C. 427i(a); 60 Stat. 1085);

(2) section 205(a) of the Act of August 14, 1946 U.S.C. 1624(a); 60 Stat. 1090);

(3) section 501(c) of the Federal Mine Safety and Health Act of 1977 (30 U.S.C. 951(c); 83 Stat. 742);

(4) section 106(c) of the National Traffic and Motor Vehicle Safety Act of 1966 (15 U.S.C. 1395(c); 80 Stat. 721);

(5) section 12 of the National Science Foundation Act of 1950 (42 U.S.C. 1871(a); 82 Stat. 360);

(6) section 152 of the Atomic Energy Act of 1954 (42 U.S.C. 2182; 68 Stat. 943);

(7) section 305 of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2457);

(8) section 6 of the Coal Research Development Act of 1960 (30 U.S.C. 666; 74 Stat. 337);

(9) section 4 of the Helium Act Amendments of 1960 (50 U.S.C. 167b; 74 Stat. 920);

(10) section 32 of the Arms Control and Disarmament Act of 1961 (22 U.S.C. 2572; 75 Stat. 634);

(11) subsection (e) of section 302 of the Appalachian Regional Development Act of 1965 (40 U.S.C.App. 302(e); 79 Stat. 5);

(12) section 9 of the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901[1]; 88 Stat. 1878);

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1983, agency regulations, or other applicable regulations or to otherwise limit the authority of agencies to allow such persons to retain ownership of inventions except that all funding agreements, including those with other than small business firms and nonprofit organizations, shall include the requirements established in paragraph 202(c)(4) and section 203 of this title. Any disposition of rights in inventions made in accordance with the Statement or implementing regulations, including any disposition occurring before enactment of this section, are hereby authorized.

(d) Nothing in this chapter shall be construed to require the disclosure of intelligence sources or methods or to otherwise affect the authority granted to the Director of Central Intelligence by statute or Executive order for the protection of intelligence sources or methods.

(e) The provisions of the Stevenson-Wydler Technology Innovation Act of 1980, as amended by the Federal Technology Transfer Act of 1986, shall take precedence over the provisions of this chapter to the extent that they permit or require a disposition of rights in subject inventions which is inconsistent with this chapter.

(As amended Pub.L. 98-620, Title V, § 501(13), Nov. 8, 1984, 98 Stat. 3367; Pub.L. 99-502, § 9(c), Oct. 20, 1986, 100 Stat. 1796.)

[1]So in original. Should be "5908".
[2]So in original. Should be "178".

§ 211. Relationship to antitrust laws

Nothing in this chapter shall be deemed to convey to any person immunity from civil or criminal liability, or to create any defenses to actions, under any antitrust law.

(Added Pub.L. 96-517, § 6(a), Dec. 12, 1980, 94 Stat. 3027).

§ 212. Disposition of rights in educational awards

No scholarship, fellowship, training grant, or other funding agreement made by a Federal agency primarily to an awardee for educational purposes will contain any provision giving the Federal agency any rights to inventions made by the awardee.

(Added Pub.L. 98-620, Title V, § 501(14), Nov. 8, 1984, 98 Stat. 3368.)

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Code of Federal Regulations

- 37 CFR, Chapter 4, Part 404, Licensing of Government Owned Inventions

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exchange of rights in the settlement of patent disputes; or (d) are otherwise authorized by law or treaty.

§ 404.2 Policy and objective.

It is the policy and objective of this subpart to use the patent system to promote the utilization of inventions arising from federally supported research or development.

§ 404.3 Definitions.

(a) "Federally owned invention" means an invention, plant, or design which is covered by a patent, or patent application in the United States, or a patent, patent application, plant variety protection, or other form of protection, in a foreign country, title to which has been assigned to or otherwise vested in the United States Government.

(b) "Federal agency" means an executive department, military department, Government corporation, or independent establishment, except the Tennessee Valley Authority, which has custody of a federally owned invention.

(c) "Small business firm" means a small business concern as defined in section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration.

(d) "Practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

(e) "United States" means the United States of America, its territories and possessions, the District of Columbia, and the Commonwealth of Puerto Rico.

§ 404.4 Authority to grant licenses.

Federally owned inventions shall be made available for licensing as deemed appropriate in the public interest. Federal agencies having custody of federally owned inventions may grant nonexclusive, partially exclusive, or exclusive licenses thereto under this part.

§ 404.5 Restrictions and conditions on all licenses granted under this part

(a)(1) A license may be granted only if the applicant has supplied the Federal agency with a satisfactory plan for development or marketing of the invention, or both, and with information about the applicant's capability to fulfill the plan.

(2) A license granting rights to use or sell under a federally owned invention in the United States shall normally be granted only to a licensee who agrees that any products embodying the invention or produced through the use of the invention will be manufactured substantially in the United States.

(b) Licenses shall contain such terms and conditions as the Federal agency determines are appropriate for the protection of the interests of the Federal

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(11) Nothing relating to the grant of a license, nor the grant itself, shall be construed to confer upon any person any immunity from or defenses under the antitrust laws or from a charge of patent misuse, and the acquisition and use of rights pursuant to this part shall not be immunized from the operation of state or Federal law by reason of the source of the grant.

§ 404.6 Nonexclusive licenses.

(a) Nonexclusive licenses may be granted under federally owned inventions without publication of availability or notice of a prospective license.

(b) In addition to the provisions of § 404.5, the nonexclusive license may also provide that, after termination of a period specified in the license agreement, the Federal agency may restrict the license to the fields of use or geographic areas, or both, in which the licensee has brought the invention to practical application and continues to make the benefits of the invention reasonably accessible to the public. However, such restriction shall be made only in order to grant an exclusive or partially exclusive license in accordance with this subpart.

§ 404.7 Exclusive and partially exclusive licenses.

(a)(1) Exclusive or partially exclusive domestic licenses may be granted on federally owned inventions three months after notice of the invention's availability has been announced in the *Federal Register*, or without such notice where the Federal agency determined that expeditious granting of such a license will best serve the interest of the Federal Government and the public; and in either situation, only if;

(i) Notice of a prospective license, identifying the invention and the prospective licensee, has been published in the *Federal Register*, providing opportunity for filing written objections within a 60-day period;

(ii) After expiration of the period in § 404.7(a)(1)(i) and consideration of any written objections received during the period, the Federal agency has determined that;

(A) The interests of the Federal Government and the public will best be served by the proposed license, in view of the applicant's intentions, plans, and ability to bring the invention to practical application or otherwise promote the invention's utilization by the public;

(B) The desired practical application has not been achieved, or is not likely expeditiously to be achieved, under any nonexclusive license which has been granted, or which may be granted, on the invention;

(C) Exclusive or partially exclusive licensing is a reasonable and necessary incentive to call forth the investment of risk capital and expenditures to bring the invention to practical application or otherwise promote the invention's utilization by the public; and

(D) The proposed terms and scope of exclusivity are not greater than reasonably necessary to provide the incentive for bringing the invention to practical application or otherwise promote the invention's utilization by the public;

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organization pursuant to any existing or future treaty or agreement with the United States.

(ii) The license shall be subject to any licenses in force at the time of the grant of the exclusive or partially exclusive license.

(iii) The license may grant the licensee the right to take any suitable and necessary actions to protect the licensed property, on behalf of the Federal Government.

(c) Federal agencies shall maintain a record of determinations to grant exclusive or partially exclusive licenses.

§ 404.8 Application for a license.

An application for a license should be addressed to the Federal agency having custody of the invention and shall normally include:

(a) Identification of the invention for which the license is desired including the patent application serial number or patent number, title, and date, if known;

(b) Identification of the type of license for which the application is submitted;

(c) Name and address of the person, company, or organization applying for the license and the citizenship or place of incorporation of the applicant;

(d) Name, address, and telephone number of the representative of the applicant to whom correspondence should be sent;

(e) Nature and type of applicant's business, identifying products or services which the applicant has successfully commercialized, and approximate number of applicant's employees;

(f) Source of information concerning the availability of a license on the invention;

(g) A statement indicating whether the applicant is a small business firm as defined in § 404.3(c);

(h) A detailed description of applicant's plan for development or marketing of the invention, or both, which should include:

(1) A statement of the time, nature and amount of anticipated investment of capital and other resources which applicant believes will be required to bring the invention to practical application;

(2) A statement as to applicant's capability and intention to fulfill the plan, including information regarding manufacturing, marketing, financial, and technical resources;

(3) A statement of the fields of use for which applicant intends to practice the invention; and

(4) A statement of the geographic areas in which applicant intends to manufacture any products embodying the invention and geographic areas where applicant intends to use or sell the invention, or both;

(i) Identification of licenses previously granted to applicant under federally owned inventions;

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SECTION D

THE WHO OF TECHNOLOGY TRANSFER

Role of the Federal Lab Technology Transfer Professionals

Other Technology Transfer Organizations and Resources

- Association of Federal Technology Transfer Executives (AFT^{2}E)
- Association of University Technology Managers (AUTM)
- Commercial Development Association (CDA)
- CorpTech Directory™
- Federal Laboratory Consortium (FLC)
- Licensing Executive Society (LES)
- National Technology Transfer Center (NTTC)
- Product Development and Management Association (PDMA)
- NASA Regional Technology Transfer Centers (RTTCs)
- Technical Entrepreneur's Intrapreneur's Network (TEIN)
- Technology Transfer Society (T^{2}S)

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Role of the ORTA

The ORTA is, in essence, a technology commercialization agent, facilitating matches between private sector needs and federal R&D resources.

The ORTA is responsible for a wide variety of technology transfer activities which include the following functions:

- Prepare technology application assessments for selected R&D projects with potential commercial applications.
- Provide and disseminate information on federally owned or originated products, processes, and services having potential application to state and local governments and private industry.
- Cooperate with and assist the Federal Laboratory Consortium (FLC) with Technology Transfer, and other organizations, such as the National Technology Transfer Center (NTTC), which link the laboratory to state and local governments and private industry.
- Provide technical assistance to state and local government officials.
- Participate in regional, state, and local programs designed to facilitate the transfer of technology.

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Association of University Technology Managers (AUTM)

AUTM is a nonprofit professional and educational society created to assist administrators of patent and copyright programs at universities to license technologies, encourage the production of inventions, and to make appropriate recommendations to assure the effective transfer of technology to the public.

AUTM
49 East Avenue, Norwalk, CT 06851
Phone: (203) 845-9015
Fax: (203) 847-1304
autm@ix.netcom.com
http://www.crpc.rice.edu/autm/

Commercial Development Association (CDA)

CDA is the leading professional association in the chemical and specialty materials industries dedicated to improving the commercialization of new products and technologies. The CDA strives to reduce the risks associated with bringing new products / technologies to market by advancing commercial development skills at the managerial level through networking, education, professional meetings, and best practices.

CorpTech Directory

The CorpTech Directory, winner of "1996 Best CD-ROM Directory" award from the National Directory Publishing Association for the EXPLORE Database, is America's most comprehensive source of technology company information. Whatever information you need about high technology manufacturing companies, you'll find in the CorpTech Database... new companies, emerging companies, growth companies, privately-held companies, subsidiaries, and operating units of American and foreign corporations.

To help you locate potential sources of technology, find sources for funding, and help you license your technologies, companies are profiled by using CorpTech's proprietary coding system encompassing more than 250 major technology areas, further divided into 3,000 product codes.

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The FLC holds one meeting per year and conducts training for new representatives. Its bimonthly newsletter provides updates, summaries of projects, etc., and its clearinghouse routes all requests to any of the six regional coordinators with potentially appropriate technologies.

FLC Administrator
P.O. Box 545
224 W. Washington, #3
Sequim, WA 98382-0545
Phone: (360) 683-1005
Fax: (360) 683-6654
http://www.zyn.com/flc/

Licensing Executives Society (LES)

LES is worldwide federation of business-oriented, professional societies of individuals involved in the transfer of technology and industrial or intellectual property rights. The basic objectives of LES are to provide a vital forum for members to meet and share licensing experiences, facilitate contact between potential licensers and licensees, and further the profession of licensing through educating its members, college students, institutions, governments, and the general public about the economic and social significance of technology licensing.

Licensing Executives Society
1800 Diagonal Road
Suite 280
Alexandria, VA 22314-2840
Phone: (703) 836-3106
Fax: (703) 836-3107

National Technology Transfer Center (NTTC)

The National Technology Transfer Center (NTTC) was created to strengthen the competitiveness of U.S. industry. The NTTC helps business and industry gain easy, rapid, and productive access to marketable technologies, relevant expertise, and unique facilities located within NASA and other federal laboratories. The Center also promotes collaborations between U.S. companies, NASA, and other federal laboratories to develop and commercialize technologies.

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NASA Regional Technology Transfer Centers (RTTCs)

The Regional Technology Transfer Centers (RTTCs) were created by NASA to assist with the transfer of NASA technologies and information to the private sector and to facilitate the commercialization of NASA technologies. The Centers are part of the NASA Technology Transfer Network and each Center is unique in the services it provides. Some of their services are as follows:

- New product identification
- Licensing opportunities
- Business development
- Funds sourcing
- Organizational networking
- Needs assessment
- Technology problem solving
- Engineering and research alternatives
- Research planning and development
- Information retrieval

There are six RTTCs aligned with the FLC regions across the country. They provide a clearer view of technology transfer opportunities close to home:

Northeast

William Gasko, Director
Center for Technology Commercialization
1400 Computer Dr.
Westborough, MA 01581
phone: (508) 870-0042, ext. 114
fax: (508) 366-0101
e-mail: info@ctc.org

Southeast

Ron Thornton, Director
Southern Technology Applications Cntr.
University of Florida
College of Engineering
Box 24, One Progress Blvd.
Alachua, FL 32615
phone: (904) 462-3913
fax: (904) 462-3898
e-mail: jrthorn@nervm.nerdc.ufl.edu

Mid-Continent

Gary Sera, Director
Mid-Continent Technology Transfer Cntr.
Texas Engineering Extension Service
Texas A&M University System
301 Tarrow St., Suite 119
College Station, TX 77843-8000
phone: (409) 845-8762
fax: (409) 845-3559
e-mail: ecsera@teexnet.tamu.edu

Mid-Atlantic

Lani S. Hummel, Director
Mid-Atlantic Technology Application Cntr.
University of Pittsburgh
3400 Forbes Avenue, 5th Floor
Pittsburgh, PA 15260
phone: (412) 383-2500
fax: (412) 383-2595
e-mail: lhummel@mtac.pitt.edu

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SECTION E

HOW TO TRANSFER TECHNOLOGY

Types of Technology Transfer

- Spin-On
- Spin-Off
- Dual-Use

What Drives Technology Transfer?

- Market Pull
- Technology Push

Main Modes of Technology Transfer

- Passive
- Semiactive
- Active

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WHAT DRIVES TECHNOLOGY TRANSFER?

There are two elements working in concert that drive technology transfer and commercialization. They are:

- **Market Pull** - A need looking for a solution.
- **Technology Push** - An improved product, process, or other technology looking for a problem.

Market Pull

Market pull drives the technology transfer process when existing firms seek better technologies to reduce their costs of production or to make marginal improvements in the quality of their existing products. In this case, a currently perceived "need" is the motivator for action.

The market "pulls" technology into it. A need exists, and there is currently no technology to meet the need. (For example, as automobiles became more complex, there arose a need for technology to control the auto system; thus, microcomputers were incorporated into automobiles.)

Market pull activities include:

- Understanding market needs in detail.
- Searching for appropriate technologies and expertise.
- Confirming the technology's applicability and profitability.
- Understanding the technology producers' technical needs and capabilities.
- Convincing someone to produce the technology in a form adapted to specific needs.
- Managing the adaptation process.
- Managing the adoption process.

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MAIN MODES OF TECHNOLOGY TRANSFER

There are three modes of technology transfer:

- **Passive Mode** — The potential adopter of technology must search for suitable technologies by either contacting R&D performers or examining archives for the results of R&D (e.g., the end user comes to the lab and performs research on his or her own, without the assistance of a lab scientist, through libraries, data bases, etc.; no technology transfer agent is involved).

- **Semiactive Mode** — A search facilitator or "transfer agent" (ORTA) is added to the system. This person helps users identify technical solutions and may be able to help evaluate technologies.

- **Active Mode** — This is the most expensive and most effective mode of technology transfer. Here a person or small group of people takes personal responsibility to see that a social need is met or a specific, useful technology is adapted to a need or market. These "technology transfer champions" tend to interact with all players within R&D, the market, and regulatory/political arenas when necessary (e.g., develop marketing plans, advertise, actively seek users).

INTERACTION IN TECHNOLOGY TRANSFER

While some methods of technology transfer rely on "impersonal" techniques such as economic incentives or publication of information, it should be noted that most methods involve face-to-face communication. Interaction is key to the process.

Laboratory scientists and engineers must be involved in hands-on partnerships, face-to-face communication, and relationship-building practices. These will make technology transfer efforts successful. Different mechanisms are more appropriate at various stages in the overall technology transfer process.

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SECTION F

TECHNOLOGY TRANSFER MECHANISMS

The transfer of technology from one organization to another can occur in a number of ways with each mechanism having its own advantages and disadvantages. Some of the more popular technology transfer mechanisms used by the federal labs are detailed in this section and listed below:

- NASA Mechanisms
- Patent licensing agreements
- Conferences, symposia, tradeshows, and workshops
- Technical assistance
- Personnel exchanges and visits (industry, academia, and state and local governments)
- Grants and cooperative agreements
- Use of laboratory facilities
- Government-funded programs such as the:
  - Technology Reinvestment Project (TRP)
  - Advanced Technology Program (ATP)
  - Small Business Innovative Research (SBIR) Program
  - Small Business Technology Transfer Research (STTR)
- Cooperative Research and Development Agreements (CRADAs)

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NASA Space Act Agreement (Reimbursable)

An agreement for the reimbursable use of NASA facilities, personnel, expertise, or equipment by a public or private entity wishing to advance research and development efforts.

The effort involves a transfer of funds or other financial obligation from the private entity to NASA. (NASA will not transfer funds to the other entity.) The terms, conditions, and schedule are negotiable, but NASA must be paid in advance for each stage of the effort. (NASA may not compete with commercially available facilities or services.)

Rights to inventions can be negotiated similar to a nonreimbursable Space Act Agreement. Proprietary data developed by the private sector partner and NASA will remain proprietary to the industry partner and is exempt from release under FOIA.

NASA Headquarters Offices are authorized to execute reimbursable agreements with no dollar limit on the reimbursable costs NASA may incur. Field Centers are generally authorized by a Headquarters' Associate Administrator to enter into agreements involving up to $10 million in reimbursable costs.

No goods or services are provided to NASA. Instead, NASA provides data, facilities, and services to the paying party.



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NASA Cooperative Agreement

- A collaborative effort between NASA and an private sector partner(s) to stimulate and support innovative new technologies and products for commercialization via technology research, development, and/or deployment. Examples include a NASA-Industry cooperative agreement to jointly fund, research, and develop a high-risk technology for potential dual use applications.

- Cash or in-kind contribution by the private sector partner will be required with a general target of at least 30 percent. Cost sharing, payment schedules, and other financial arrangements are open to negotiation and can be structured in any matter agreeable to both parties within the confines of the law. Generally, IR&D funds are not allowable as part of cost sharing.

- Rights to inventions are controlled by statute. Generally, title to inventions remain with the respective inventing parties with the government obtaining a license to all subject inventions arising under the agreement.

- Rights in data are negotiable. Generally, the private sector partner's "proprietary" data is exempted from release under FOIA. NASA developed "proprietary" data may be protected under certain circumstances.

- Substantial involvement between NASA and the other party is required, with NASA playing a significant role in the R&D effort. The specific activities to be performed are not described in detail and reporting requirements can be minimal but the nature of the collaboration and the specific goal of the project must be clearly defined in advance. NASA's Office of Procurement administers all cooperative agreements.

- Cooperative Agreements may not be used for procuring goods or services. Allowable deliverables may include technical and status reports, data, etc.

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NASA Cost-Shared Contract

- A contract arrangement under which the contractor bears some of the burden of reasonable, allocable, and allowable contract cost. The primary purpose of this agreement is to provide a direct good or service to the government. This is not a means of providing public support and/or stimulation.

- NASA will not pay a fee to the contractor for performing this contract and only an agreed to portion of allowable costs shall be reimbursed. After paying 80 percent of NASA's share of the total estimated performance costs, the contracting officer may withhold further payment until an appropriate reserve amount is set aside. This reserve shall not exceed one percent of NASA's total estimated costs or $100,000, whichever is less.

- The Federal Acquisition Regulation (FAR) Part 27 governs rights to inventions and patents. Generally, title to inventions remain with the respective inventing parties with the government obtaining a license to all subject inventions arising under the agreement. Rights in data are negotiable. Generally, the industry partner's "proprietary" data is exempted from release under FOIA. NASA developed "proprietary" data may be protected under certain circumstances.

- Authority and responsibility to enter into any contract on behalf of the government is reserved for contracting officers. Contracting officers are responsible for ensuring performance of all necessary actions for effective contracting, ensuring compliance with the terms of the contract, and safeguarding the interests of the United States. For more information regarding the specific conditions defining the applicability of a cost shared contract refer to the NASA FAR supplement 18-16.3 or the NASA Office of Procurement.

- Goods and/or services will be provided to NASA as a result of this contract.

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Conferences, Symposia, Tradeshows, and Workshops

Membership in industry groups and professional associations is a very important tool in assisting technology transfer. It is through these organizations that commercial contacts are made, new ideas germinate, current ideas are built upon, information flows, training can take place, and the preliminary steps of technology transfer naturally occur.

Expositions and trade shows provide opportunities for federal laboratory engineers and scientists to showcase technologies to potential partners and to take the all-important step of obtaining exposure for the laboratory's capabilities and achievements.

The exposure received by participation in the above activities significantly enhances the probability of successful technology transfer. It is true that the more exposure a laboratory gains, the easier it is for outside sources to find the technologies residing in the lab; therefore, it requires less effort to achieve the technology transfer mission.

A list of technology transfer associations is provided in the Appendix.

CAUTION: Be very careful of publishing information about your technology before a patent, copyright, or licensing agreement is considered or written. There is a danger of forfeiting all intellectual property rights with a premature publication or information about your technology. If in doubt, check with your ORTA.

Technical Assistance

Frequently, technology transfer occurs in the form of technical assistance provided to nonfederal persons via telephone inquiries or other contacts. Some ORTAs can guide scientists and engineers in the procedure for handling such inquiries.

Caution needs to be exercised when providing technical assistance. It is important that the laboratory person does not cross over into the role of "consultant." Answering direct technical questions is appropriate. However, giving subjective guidance and acting as an advisor/consultant are to be avoided. Answering a question such as, "What is the result to tensile strength when adding this impurity?" is appropriate, but directing them to establish a program to test different types of impurities could cross the line.

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Information can be found for:

- *Commerce Business Daily*
- *Federal Register*
- Federally Funded Research at the National Institutes of Health, National Science Foundation, U.S. Department of Agriculture, Small Business Innovation Research Program, National Institute of Standards and Technology
- Minority Funding Opportunities
- Canadian Community of Science Databases

Federal Information Exchange (http://web.fie.com/index.htm)
The Federal Information Exchange (FEDIX) is a free on-line information retrieval service of federal opportunities for the education and research communities. FEDIX provides instant access to federal agency information on research programs, contact information, education grants, procurement notices, minority opportunities, and more. It is a convenient one-stop source of current federal funding information that benefits educators and researchers. Key federal agencies support FEDIX under a cooperative agreement from the Department of Energy.

GrantsWeb (http://web.fie.com/cws/sra/resource.htm)
GrantsWeb is a starting point for accessing grants-related information and resources on the Internet including funding opportunities, grants databases, policy developments, and professional activities.

GrantsNet (http://www.os.dhhs.gov/progorg/grantsnet/)
GrantsNet is a hub for federal grants information and lists who's who in federal grants management, contains the Catalog of Federal Domestic Assistance, provides links to other grants related electronic networks, and contains a calendar of events.

Use of Laboratory Facilities

Universities, industry, the technical community, and other government facilities may utilize equipment and expertise at a federal laboratory which was designed by the government for use by these groups.

Features of this type of arrangement:

- Includes designated user facilities and other user resources.
- Research may be conducted on a proprietary or nonproprietary basis.
- Full cost recovery is required for proprietary R&D.
- Class patent waiver may be granted in which title goes to the user and the

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continue to monitor ongoing TRP competitions. The Office is staffed with a DARPA representative and three Service representatives (one from the Army, Navy, and Air Force).

For more information on the TRP:

Advanced Research Projects Agency
Technology Reinvestment Project
3701 N. Fairfax Drive
Arlington, VA 22203-1714
1-800-DUAL-USE
http://www.jdupo.darpa.mil/jdupo/index.html

Advanced Technology Program (ATP)

Begun in 1990, the Advanced Technology Program at the National Institute of Standards and Technology invests directly in the nation's economic growth by working with industry to develop innovative technologies with strong commercial potential -- technologies which, if successful, would enable novel or greatly improved products and services for the world market. The ATP concentrates on promising, but high-risk, enabling technologies that can form the basis for new and improved products, manufacturing processes, and services. It accelerates technologies that, because they are risky, are unlikely to be developed in time to compete in rapidly changing world markets without such a partnership of industry and government. It does not fund product development.

Early results indicate that the ATP is successfully improving the capability of the nation's businesses to capture economic returns from scientific and technological innovations. Two independent studies of projects funded in FY 1991 revealed substantial, early beneficial impacts on participating companies.

For more information on ATP:

Advanced Technology Program
A430 Administration Building
National Institute of Standards and Technology
Gaithersburg, MD 20899-0001
1-800-ATP-FUND
1-301-926-9524 (fax)
http://www.atp.nist.gov/

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Only small businesses and their nonprofit research institution partners (nonprofit institutions or federally funded research and development centers) may compete in STTR. Research is to be conducted jointly by a small business concern and its partner. Not less than 40 percent of the work must be performed by the small business concern and not less than 30 percent by the nonprofit research institution.

The STTR is funded by the Department of Defense, Department of Health and Human Services, National Aeronautics and Space Administration, Department of Energy, and the National Science Foundation.

For more information on the STTR program, contact the National Technology Transfer Center's World Wide Web page at: http://www.nttc.edu/solicitations.html

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Cooperative Research and Development Agreement (CRADA)

A CRADA is an agreement between one or more federal laboratories and one or more nonfederal parties to perform cooperative and mutually beneficial (R&D). Under a CRADA, both the federal laboratories and the nonfederal partner can provide personnel, services, facilities, equipment, or other resources with or without reimbursement. The nonfederal partner is permitted to provide funds to the CRADA while the federal partner is not.

Many times, industrial partners are reluctant to enter into a CRADA with a federal laboratory because they expect to encounter the lengthy and complex procurement process governed by the Federal Acquisition Regulations (FAR). It is, therefore, important to point out to potential partners that because the federal lab does not provide funds to the nonfederal partner, CRADAs are procurements. The development, approval, and implementation of a CRADA can be extremely simple, especially when a standard CRADA is used. (See the Appendix for sample CRADAs)

Both parties to a CRADA benefit because:

- The opportunity is available to obtain access to federal science and technology.
- The opportunity is available to acquire rights to inventions and licensing.
- Both organizations share disclosure agreements, costs, results, and contributions.

Ways to Use a CRADA

Many CRADAs fall into several common categories. These reflect the subject matter and purpose of the agreement. They are:

- **Codevelopment and Marketing of a Product.** Requires special attention to patents, licenses, and royalties.
- **Codevelopment and/or Modification and Marketing of Software.** Requires special attention to copyrights.
- **Use of Federal Laboratory Facilities.** Special attention is paid to liability, cost reimbursement, and the definition of the federal facilities' responsibilities.
- **Supplying of Funds for Research and Development.** The primary contribution of the nonfederal partner is the supplying of funds for R&D to be executed by the federal lab partner.

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SECTION G

INTELLECTUAL PROPERTY PROTECTION

The following pages describe the forms of intellectual property and the rights that the employee / inventor has regarding intellectual property. This section also describes how federal laboratory employees must protect their own intellectual property, as well as proprietary information belonging to the nonfederal partner to a technology transfer initiative. Intellectual property applies to inventions and discoveries, writings, and know-how.

- Forms of Intellectual Property
  - Patents
  - Copyrights
  - Trademarks
  - Trade Secrets
- Electronic Publishing
- Ownership of Intellectual Property
- Protecting Intellectual Property
- How to Use Your Laboratory Notebook

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Who Can Apply for a Patent?

In the United States, a patent application can only be filed by the inventor, who must be an individual or group of individuals. The inventor cannot be a corporation, partnership, joint venture, or other business entity. An inventor may, however, assign his or her rights in the patent to other individuals or legal entities such as corporations or the U.S. government.

Can Anything Be Patented?

Patent coverage is broad and therefore separated into several categories:

- **Process.** A series of actions or operations achieving a physical or chemical change in the character or condition of an object (e.g., freeze-drying fruit, vegetables, coffee).
- **Machine.** Any apparatus having an assembly of parts that function in conjunction with one another (e.g., the steam engine).
- **Manufactured Article.** Any articles made from raw materials (e.g., clothing, sneakers).
- **Composition of Matter.** Any results of chemical compounds or mixtures of substances that have properties different from those of the individual ingredients (e.g., flour, water, and yeast combined in the proper proportions to create bread dough).
- **Any new or useful improvements on the above.**

Are There Things Which Cannot Be Patented?

Some subject matter categories are not eligible to be patented. They are:

- Any process that can be performed mentally or with very simple objects, such as a pencil
- Printed matter
- Methods of doing business
- Anything which occurs naturally in nature
- Purely scientific principles

Patents fall into several different categories:

- **Utility Patent** - Inventions that are useful (e.g., no-refrigeration-needed juice cartons, Unicoat paint).
- **Design Patent** - A new, original, and ornamental design that does not

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the work or labor on the goods or services was performed by members of a union or other organization.

Trademark Registration and Fees

Registrations issued under the Trademark Act of 1946 remain in force for 20 years from the date of registration and may be renewed for periods of 20 years from the expiration date unless previously canceled or surrendered.

Examples of trademarks include:

- Words (e.g., LIFE, TIME)
- Geometric shapes (e.g., circles, triangles), natural shapes (e.g., trees, animals), combinations of shapes, colors (e.g., pink has been trademarked for building insulation), and three dimensional shapes (e.g., McDonald's golden arches)

United States Patent and Trademark Office

The United States Patent and Trademark Office issues and maintains all patents within the U.S. For more information on patents, you can contact them at:

U.S. Patent and Trademark Office
Commissioner of Patents and Trademarks
Washington, D.C. 20231
(800) PTO-9199
(703) 308-4357
http://www.uspto.gov/

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charts; technical drawings, diagrams, and models; and pictorial or graphic labels and advertisements.
- **Sound recordings** of music and sounds, including records, tapes, and CDs.

Copyrighting Software

The Computer Software Copyright Act of 1988 extended copyright protection to computer programs which are defined as sets of statements or instructions to be used directly or indirectly in order to bring about a certain result. This definition does not include data bases or supporting manuals which should be copyrighted separately. Legislation, however, has not granted copyright authorization to federal software (computer software and supporting documentation).

Businesses are hesitant to transfer software without copyright protection. Some companies form CRADAs to either develop the software jointly or to expand upon existing government software. Either way, the commercial company may apply for the copyright provided the government retains a nonexclusive, nontransferable, irrevocable, paid-up license to use or have others use the invention anywhere in the world for the benefit of the government.

Obtaining Copyright Protection

The author of an original work may, but need not, register the work with the Library of Congress Copyright Office to claim copyright protection. Subject to certain limitations, the copyright owner has the exclusive right to do or authorize certain activities, including:

- Reproduction of the copyrighted work in copies or phonorecords
- Preparation of derivative works
- Distribution of copies of the copyrighted work to the public
- Performance or display of the copyrighted work publicly

Copyright protection timeframes are as follows:

- **Single Author**. The length of the author's life plus 50 years.
- **A Work Made For Hire**. 75 years from first publication or 100 years from the work's creation whichever comes first.
- **Joint Work (prepared by two or more authors who did not work for hire)**. The length of the life of the last surviving author plus 50 years.

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For more information on copyrights, you can reach the Copyright Office at :

Copyright Office
LM455
Library of Congress
Washington, D.C. 20559-6000
(202) 707-3000
http://www.loc.gov/copyright
gopher: marvel.loc.gov
telnet: marvel.loc.gov (login as marvel)

OWNERSHIP OF INTELLECTUAL PROPERTY

Employee Ownership

The criteria for determining whether the government or the employee has rights to an invention are as follows:

- Inventions that are developed by employees during government time and using government funds are the property of the U.S. government. Since the government cannot file for a patent, the patent is filed for and issued to the responsible individual or group of individuals. The legal rights to the patent, however, are assigned to the government.

- If the government is not interested in filing a patent application for an invention created with government funds or at a government facility, the employee inventor may claim title to the invention by filing a patent application at personal expense; however, the government retains a nonexclusive, nontransferable, irrevocable, paid-up license to use or have others use the invention anywhere in the world for the benefit of the government.

- Title to the invention may belong exclusively to the employee inventor if the employee makes the invention on personal time and the invention is not within the scope of employment.

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General Guidelines to Ensure Protection of Proprietary Information

Organizations should establish a policy that states the importance of protecting proprietary information and establish guiding principles for carrying out that policy and negotiating the restrictions on use of the data. Suggested principles are listed below:

- Limit the acceptance of proprietary data to information that is absolutely essential to the success of the project or program objectives.
- Limit the use of proprietary data to those activities or individuals that need to know.
- Determine where the proprietary data are to be accessed and stored.
- Do not agree to protect orally transmitted information or data unless they are promptly reduced to writing by the owner or sponsor and appropriately marked with a legend.
- Categorize information that is received.
- Place legends on proprietary data that specifically identify the restrictions for use and disclosure of the information or data.
- Identify the office or personnel responsible for the management of proprietary data. These responsibilities include:
  - The determination of what proprietary information is essential to the project or program objectives.
  - The overall protection of proprietary data.
  - The assurance that each employee is aware of the confidential nature of proprietary data and the responsibility to protect it (provisions of 18 USC 1905 apply to government employees; see Appendix).
  - The formal receipt for proprietary data.
  - The assurance that contractors abide by the terms of any nondisclosure agreements they have signed.

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notes will reveal successful, as well as unsuccessful, attempts at the invention. It will show that some conclusions were tested and found to be untrue before the discovery of the finished product.

Tips for Keeping Notes

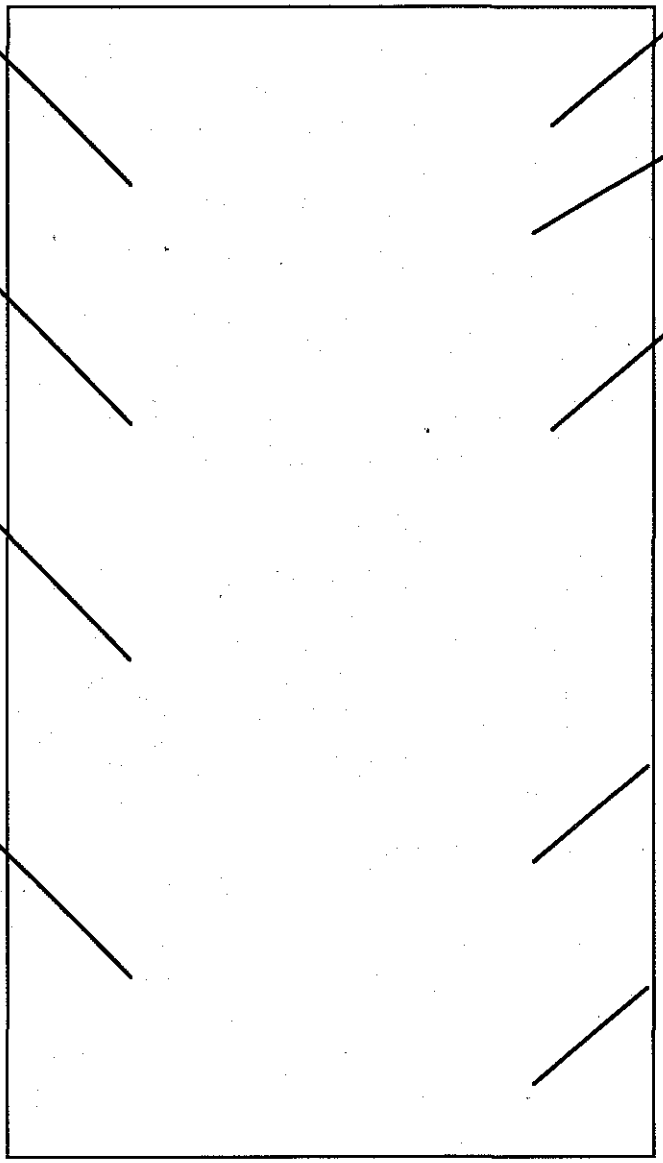
In maintaining this notebook, there are some standard conventions that, if followed, can avert misunderstandings, inefficiencies, and potential disasters. Routinely following these record keeping practices will also help expedite the patent application process while significantly increasing your chance of receiving the patent and subsequent royalty payments:

- Notebooks should be bound with prenumbered pages.
- Entries should record all ideas, experiments, and tests as well as related activities such as conferences and the making of test equipment.
- Each page of the notebook should be signed and dated.
- Joint work should be signed by all of the contributors, and the text should indicate which work is applicable to each inventor.
- Entries that relate to an invention which is potentially patentable should be signed and dated by two witnesses.

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How to Use Your Laboratory Notebook

Entries should be made to record not only ideas, experiments, and tests, but also to record related activities such as conferences and the making of test equipment.



Separate sheets and photographs affixed to pages should be referred to in an entry.

Entries should be in chronological order.

Sign and date affixed material such that the signature is partially on the laboratory notebook page and partially on the affixed material that cannot be entered directly.

Witnesses who have observed and understood the performance of an experiment or test should sign their signatures under the caption "performance observed and understood by."

Use pages in consecutive order.

Keep your notebook intact. Do not tear out pages or remove affixed material.

To show reduction to practice of an invention, an entry should describe the purpose of an experiment or test, the method or means chosen to perform it, and the results obtained from the performance - both favorable and unfavorable.

Separate sheets describing an important idea, experiment, or test should be witnessed.

Joint work should be signed by all the contributors. The text should set forth who is responsible for each part.

Prepare an invention disclosure promptly for something new or unexpected.

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SECTION H

SAMPLE FORMS

In this section we have included samples of some basic forms used in technology transfer and commercialization. The forms used by U.S. federal agencies and universities will vary. Please contact the specific laboratory or university to get copies of their forms.

- Cooperative Research and Development Agreement
- NASA Nonreimbursable Space Act Agreement
- Patent Licensing Agreement
- Small Business Innovation Research (SBIR) Application
- Copyright Application
- Trademark Application
- Record and Disclosure of Invention Form
- Application for License to Practice Invention

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Cooperative Research and Development Agreement

STEVENSON-WYDLER (15 USC 3710)
COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT
(hereinafter "CRADA") NO. _____

BETWEEN

Sandia Corporation
(hereinafter "Sandia")
AND

_____

a corporation of the State of <state> having a principal office in <town and state> (hereinafter "Participant"), both being hereinafter jointly referred to as the "Parties."

Background - The U.S. Department of Energy (DOE) is the agency responsible for the federally-owned facility known as Sandia National Laboratories. Sandia National Laboratories is managed and operated by American Telephone and Telegraph Company (AT&T) through its wholly owned subsidiary Sandia Corporation. Sandia operates at no-profit or loss to AT&T under a prime contract between AT&T and DOE designated Contract DE-AC04-76DP00789.

ARTICLE I. DEFINITIONS

A. "Government" means the United States of America and agencies thereof.

B. "DOE" means the Department of Energy, an agency of the United States of America.

C. "Contracting Officer" means the DOE employee administering Sandia's DOE Contract.

D. "Generated Information" means information produced in the performance of this CRADA.

E. "Proprietary Information" means information which embodies trade secrets developed at private expense outside of this Agreement and commercial or financial information which is privileged or confidential under the Freedom of Information Act (5 USC 552(b)(4)) and which is marked as Proprietary Information.

F. "Protected CRADA Information" means Generated Information which is marked as being Protected CRADA Information by a Party to this Agreement and which would have been Proprietary Information had it been obtained from a non-federal entity.

G. "Subject Invention" means any invention of Sandia or Participant conceived or first actually reduced to practice in the performance of work under this CRADA.

H. "Intellectual Property" means patents, trademarks, copyrights, mask works, and other forms of comparable property rights protected by Federal law and other foreign counterparts.

I. "Trademark" means a distinctive mark, symbol or emblem used in commerce by a producer or manufacturer to identify and distinguish their goods or services from those of others.

J. "Mask Work" means a series of related images, however fixed or encoded, having or representing the predetermined, three-dimensional pattern of metallic, insulating or semiconductor material present or removed from the layers of a semiconductor chip product; and in which series the relation of

ARTICLE VI. PRODUCT LIABILITY

Except for any liability resulting from any negligent or intentional acts or omissions of Sandia, Participant indemnifies the Government, AT&T, and Sandia for all damages, costs and expenses, including attorney's fees, arising from personal injury or property damage occurring as a result of the making, using or selling of a product, process or service by or on behalf of the Participant, its assignees or licensees, which was derived from the work performed under this CRADA. In respect to this Article, neither the Government, AT&T, nor Sandia shall be considered assignees or licensees of the Participant, as a result of reserved Government, AT&T, and Sandia rights. The indemnity set forth in this paragraph shall apply only if Participant shall have been informed as soon and as completely as practical by Sandia, AT&T, and/or the Government of the action alleging such claim and shall have been given an opportunity, to the extent afforded by applicable laws, rules, or regulations, to participate in and control its defense, and Sandia, AT&T, and/or the Government shall have provided reasonably available information and reasonable assistance requested by Participant. No settlement for which Participant would be responsible shall be made without Participant's consent unless required by final decree of a court of competent jurisdiction.

ARTICLE VII. OBLIGATIONS AS TO PROPRIETARY INFORMATION

A. If Proprietary Information is orally disclosed to a Party, it shall be identified as such, orally, at the time of disclosure and confirmed in a written summary thereof within ten (10) days as being Proprietary Information.

B. Each Party agrees to not disclose Proprietary Information provided by another Party to anyone other than the CRADA Participant and Sandia without written approval of the providing Party, except to Government employees who are subject to 18 USC 1905.

C. All Proprietary Information shall be returned to the provider thereof at the conclusion of this CRADA at the provider's expense.

D. All Proprietary Information shall be protected, unless and until such Proprietary Information shall become publicly known without the fault of the recipient, shall come into recipient's possession without breach of any of the obligations set forth herein by the recipient, or shall be independently developed by recipient's employees who did not have access to such Proprietary Information.

ARTICLE VIII. OBLIGATIONS AS TO PROTECTED CRADA INFORMATION

A. Each Party may designate as Protected CRADA Information, as defined in Article I, any Generated Information produced by its employees, and with the agreement of the other Party, mark any Generated Information produced by the other Party's employees. All such designated Protected CRADA Information shall be appropriately marked.

B. For a period of _____ (not to exceed five years) from the date Protected CRADA Information is produced, Parties agree not to further disclose such information except:

(1) as necessary to perform this CRADA;

(2) other than as provided in Article XI, as requested by the DOE Contracting Officer to be provided to other DOE facilities for use only at those DOE facilities with the same protection in place; or

(3) as mutually agreed by the Parties in advance.

work created by its employee(s). The Parties agree to assign to the DOE, upon request, copyrights not retained by either Party.

C. For Generated Information, the Parties acknowledge that the Government has for itself and others acting on its behalf, a royalty-free, nonexclusive, irrevocable worldwide copyright license to reproduce, prepare derivative works, distribute copies to the public, and perform publicly and display publicly, by or on behalf of the Government, all copyrightable works produced in the performance of this CRADA, subject to the restrictions this CRADA places on publication of Proprietary Information and Protected CRADA Information.

D. For all copyrighted computer software produced in the performance of this CRADA, the Party owning the copyright will provide the source code, an expanded abstract as described in Appendix B, Abstract Format Description, and the object code and the support documentation needed by a competent user to understand and use the software to DOE's Energy Science and Technology Software Center. The expanded abstract will be treated in the same manner as Generated Information in subparagraph C of this Article.

E. Sandia and the Participant agree that, with respect to any copyrighted computer software produced in the performance of this CRADA, DOE has the right, at the end of the period set forth in paragraph B of Article VIII hereof and at the end of each two-year interval thereafter, to request Sandia and the Participant and any assignee or exclusive licensee of the copyrighted software to grant a nonexclusive, partially exclusive, or exclusive license to a responsible applicant upon terms that are reasonable under the circumstances, provided such grant does not cause a termination of any licensee's right to use the copyrighted computer software. If Sandia or the Participant or any assignee or exclusive licensee refuses such request, Sandia and the Participant agree that DOE has the right to grant the license if DOE determines that Sandia, the Participant, assignee, or licensee has not made a satisfactory demonstration that it is actively pursuing commercialization of the copyrighted computer software.

Before requiring licensing under this paragraph E, DOE shall furnish Sandia/Participant written notice of its intentions to require Sandia/Participant to grant the stated license, and Sandia/Participant shall be allowed 30 days (or such longer period as may be authorized by the cognizant DOE Contracting Officer for good cause shown in writing by Sandia/Participant) after such notice to show cause why the license should not be required to be granted.

Sandia/Participant shall have the right to appeal the decision by the DOE to the grant of the stated license to the Invention Licensing Appeal Board as set forth in paragraphs (b)-(g) of 10 CFR 781.65, "Appeals."

F. The Parties agree to place copyright and other notices, as appropriate for the protection of copyright, in human readable form onto all physical media, and in digitally encoded form in the header of machine readable information recorded on such media such that the notice will appear in human readable form when the digital data are off loaded or the data are accessed for display or printout.

ARTICLE XIV. REPORTING INVENTIONS

A. The Parties agree to disclose to each other each and every Subject Invention, which may be patentable or otherwise protectable under the Patent Act. The Parties acknowledge that Sandia will disclose Subject Inventions to the DOE within two (2) months after the inventor first discloses the invention in writing to the person(s) responsible for patent matters of the disclosing Party.

ARTICLE XVII. TRADEMARKS

The Parties may seek to obtain trademark/service mark protection on products or services generated under this agreement in the United States or foreign countries. The ownership and other rights relating to this trademark shall be as mutually agreed to in writing by the Parties. The Parties hereby acknowledge that the Government shall have the right to indicate on any similar goods or services it produces, that such goods or services were derived from and are a DOE version of the goods or services protected by such trademark/service mark with the trademark of the owner thereof being specifically identified.

ARTICLE XVIII. MASK WORKS

The Parties may seek to obtain legal protection for mask works fixed in semiconductor products generated under this agreement as provided by Chapter 9 of Title 17 of the United States Code. The rights to any mask work covered by this provision shall be as mutually agreed to in writing by the Parties. The Parties acknowledge that the Government or others acting on its behalf shall retain a nonexclusive, paid-up, worldwide, irrevocable, nontransferable license to reproduce, import, or distribute the covered semiconductor product by or on behalf of the Government.

ARTICLE XIX. COST OF INTELLECTUAL PROPERTY PROTECTION

Each Party shall be responsible for payment of all costs relating to copyright, trademark, and mask work filing, U.S. and foreign patent application filing and prosecution, and all costs relating to maintenance fees for U.S. and foreign patents hereunder which are owned by the Party.

ARTICLE XX. REPORTS OF INVENTION USE

The Parties agree to submit, upon request of DOE, reports no more frequently than annually on the efforts to obtain utilization of any Subject Invention.

ARTICLE XXI. DOE MARCH-IN RIGHTS

The Parties acknowledge that the DOE has certain march-in rights to any Subject Inventions in accordance with 48 CFR 27.304-1(G).

ARTICLE XXII. U.S. COMPETITIVENESS

A. The Parties agree that any products, processes, or services for use or sale in the United States under any United States Patent resulting from a Subject Invention shall be manufactured, practiced, or provided substantially in the United States.

B. The Parties also agree that any products, processes, or services using intellectual property arising from the performance of this CRADA shall be manufactured, practiced, or provided substantially in the United States.

ARTICLE XXIII. ASSIGNMENT OF PERSONNEL

A. It is contemplated that each Party may assign personnel to the other Party's facility as part of this CRADA. Such personnel assigned by the assigning Party, to participate in or observe the research to be performed under this CRADA shall not during the period of such assignments be considered employees of the receiving Party for any purposes.

--------OR--------

P.O. Box 969, CRADA No. _____
Livermore, CA 94550-0096

7011 East Ave., Bldg. 916
CRADA No. _____
Livermore, CA 94550-0096

a. FORMAL NOTICES AND COMMUNICATIONS, COPIES OF REPORTS

Attn: _____ Org. No._____
Tel: _____
Facsimile: _____

b. TECHNICAL CONTACT, REPORTS, COPIES OF FORMAL NOTICES AND COMMUNICATIONS

Attn: _____ Org. No._____
Tel: _____
Facsimile: _____

2. For Participant:

U.S. Mail Only:

_____
_____
_____

Fed. Ex., UPS, Freight:

_____
_____
_____

a. FORMAL NOTICES AND COMMUNICATIONS, COPIES OF REPORTS

Attn: _____
Tel: _____
Facsimile: _____

b. TECHNICAL CONTACT, REPORTS, COPIES OF FORMAL NOTICES AND COMMUNICATIONS

Attn: _____
Tel: _____
Facsimile: _____

ARTICLE XXVII.1 INFORMATION REQUESTED FROM PARTICIPANT

In order to evaluate the success of this CRADA and Sandia's CRADA program, the following information is requested from the Participant:

A. An annual estimate of additional sales dollars or, if the effort of this CRADA can not be linked to sales, cost savings realized by the Participant as a result of the contributions made to the Participant's technology that are attributable to Sandia's efforts under this CRADA. The annual estimate is requested within 30 days of the end of each calendar year from inception of this CRADA through the calendar year following termination or completion of work under this CRADA.

B. With the final annual estimate, a projection of anticipated additional sales dollars or cost savings that are expected by the Participant for each of the next five years and that are attributable to Sandia's efforts under this CRADA.

For Sandia:

BY _____
C. Paul Robinson

TITLE Vice President of Laboratory Development

DATE _____

For Participant:

BY _____

TITLE _____

DATE _____

NASA
Nonreimbursable
Space
Act
Agreement

NONREIMBURSABLE SPACE ACT AGREEMENT
BETWEEN
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION,
JOHN F. KENNEDY SPACE CENTER
AND
[Other Party]
FOR
[Subject of Agreement]

I. AUTHORITY

This Agreement is entered into by the National Aeronautics and Space Administration, John F. Kennedy Space Center (hereinafter "NASA KSC") located at Kennedy Space Center, Florida 32899, and [Other Party] (hereinafter "_____") located at [address of other party]. This Agreement is entered into pursuant to sections 203(c) (5) and (6) of the Space Act of 1958, 42 U.S.C. Section 2473(c), as implemented by NASA Management Instruction (NMI) 1050.9A.

II. BACKGROUND AND PURPOSE OF AGREEMENT

The purpose of this agreement is to [description of the product/activity, the background, and the purpose of the agreement.]

III. RESPONSIBILITIES

A. [Other Party] will use reasonable efforts to perform the following tasks, and other such tasks that may be required to meet the purpose of this Agreement:

1. [Insert details]
2. . . .
3. . . .

B. NASA KSC will use reasonable efforts to perform the following tasks, and other such tasks as may be necessary to meet the purpose of this Agreement:

1. [Insert details]
2. . . .
3. . . .

IV. FINANCIAL OBLIGATIONS

There will be no transfer of funds or other financial obligations between NASA KSC and [Other Party] in connection with this

VIII. LIABILITY AND RISK OF LOSS

A. General: In consideration of the use of NASA research facilities, equipment, and/or services provided by NASA or NASA contractors under this Agreement, [Other Party] waives and agrees not to make any claims against the U.S. Government or U.S. Government contractors or subcontractors, for damage arising from or related to activities under this Agreement, whether such damage is caused by negligence or otherwise, except in the case of willful misconduct.

In addition, [Other Party] agrees to indemnify and hold the U.S. Government or the U.S. Government contractors or subcontractors harmless from any claim, judgment, or cost arising from the injury to or death of any person, or for damage to or loss of any property, including U.S. Government property, as a result of activities under this Agreement, whether such damage is caused by negligence or otherwise, except in the case of willful misconduct.

B. Facility Damage: Notwithstanding the above, [Other Party] assumes responsibility for any facility/equipment damage it causes resulting from the activity under this Agreement and agrees to pay all costs associated with the repair of such damage. Facility/equipment damage as used herein refers to any damage to NASA facilities and equipment beyond the normal wear and tear reasonably to be expected as arising from the type of activity contemplated under this Agreement.

C. Limitation of Liability to Direct Damages: To the extent that a risk of damage or loss is not dealt with expressly in this Agreement, each Party's liability to the other party arising out of this Agreement, whether or not arising as a result of an alleged breach of this Agreement, shall be limited to direct damages only, and shall not include any loss of revenue or profits or other indirect or consequential damages.

IX. INTELLECTUAL PROPERTY

A. Rights in Data

1. Definitions: The term "Participant," as used herein, means any non-U.S. Government entity that is a party to this Agreement. The rights in data set forth herein are applicable to any employees, contractors or subcontractors, or other entities having a fiduciary or contractual relationship with Participant that are assigned, tasked, or contracted with to perform specified Participant activities under this Agreement.

The term "data," as used herein, means recorded information, regardless of form, the media on which it may be recorded, or the method of recording. The term includes,

published, copyrighted work, the following paid-up licenses shall apply:

(a) If it is indicated on the data that the data existed prior to, or was produced outside of, this agreement, the receiving party and others acting on its behalf, may reproduce, distribute, and prepare derivative works for the purpose of carrying out the receiving party's responsibilities under this agreement; and

(b) If the furnished data does not contain the indication of (a) above, it will be assumed that the data was first produced under this agreement, and the receiving party and others acting on its behalf, may reproduce, distribute, and prepare derivative works for any of its own purposes.

7. Oral and Visual Information: If information which Participant considers to embody trade secrets or to comprise commercial or financial information which is privileged or confidential is disclosed orally or visually to NASA, such information must be reduced to tangible, recorded form (i.e., converted into data as defined herein), identified and marked with a suitable notice or legend as required by paragraphs 3 and 4 above, and furnished to NASA within 10 days after such oral or visual disclosure, or NASA shall have no duty to limit or restrict, and shall not incur any liability for, any disclosure and use of such information.

8. Disclaimer of Liability: Notwithstanding the above, NASA shall not be restricted in, nor incur any liability for, the disclosure and use of:

(a) data not identified with a suitable notice or legend as set in paragraphs 3 and 4; nor

(b) information contained in any data for which disclosure and use is restricted under paragraphs 3, 4, and 5 above, if such information is or becomes generally known without breach of the above, is known to or is generated by NASA independently of carrying out responsibilities under this agreement, is rightfully received from a third party without restriction, or is included in data which Participant has, or is required to, furnish to the U.S. Government without restriction on disclosure and use.

B. Patent and Invention Rights

1. The term "Participant," as used herein, means any non-U.S. Government entity that is a party to this Agreement.

or 5 above will be subject to the reservation of the following rights:

(a) as to inventions made solely by, or jointly with, NASA employees, the irrevocable, royalty-free right of the U.S. Government to practice or have practiced the invention by or on behalf of the U.S. Government for research, experimental, or demonstration purposes; and

(b) as to inventions made solely by, or jointly with, employees of NASA contractors, the rights in NASA as set forth in (a) above, as well as the revocable, nonexclusive, royalty-free license in the contractor as set forth in 14 CFR 1245.108.

7. Protection of Reported Inventions: When inventions are reported and disclosed between the parties in accordance with the provisions of this clause, the receiving party agrees to withhold such reports or disclosures from public access for a reasonable time (presumed to be one year unless otherwise mutually agreed) in order to facilitate the allocation and establishment of the invention and patent rights under these provisions.

8. Patent Filing Responsibilities and Costs: The invention and patent rights set forth herein shall apply to any patent applications filed and patents obtained in any country, and each party is responsible for its own costs of preparing, prosecuting, issuing, and maintaining patents covering sole inventions in any country; except that NASA and Participant may, upon the reporting of any invention (sole or joint) or in any license option granted, mutually agree otherwise for any country as to patent application preparation, filing and prosecution responsibilities and costs, and maintenance responsibilities and costs.

X. NEWS RELEASES AND PUBLICATIONS

The parties agree to coordinate in advance any news releases and/or widely distributed publications that result from activities performed pursuant to this Agreement. This coordination shall entail notifying the respective points of contact of the proposed news release or publication in sufficient time to allow the other party an opportunity to review and comment as deemed appropriate. Neither party shall issue a news release or publication prior to the other's consent.

XI. ELIGIBLE PARTICIPANTS

Unless expressly provided for to the contrary elsewhere in this Agreement, access to and use of NASA KSC equipment and facilities will be restricted to U.S. Citizens and resident aliens.

XVII. ASSIGNMENT OF RIGHTS

Neither this agreement nor any interest arising under it will be assigned by [Other Party] or NASA without the express written consent of the officials executing the agreement.

XVIII. GOVERNING LAW

The Parties hereby designate the United States Federal Law to govern this agreement for all purposes, including, but not limited to, determining the validity of the agreement, the meaning of its provisions, and the rights, obligations and remedies of the Parties.

XIX. EXECUTION

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, JOHN F. KENNEDY SPACE CENTER	[OTHER PARTY]
BY: _____	BY: _____
Jay F. Honeycutt Director NASA/Kennedy Space Center Kennedy Space Center, FL 32899	[Name of Official] [Title] [Address]
Date: _____	Date: _____

Patent Licensing Agreement