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Energy conversion and conservation.

58. CHI ASSOCIATES, INC.
1011 Arlington Blvd. —Suite 316
Arlington, VA 22209
Michael Chi, Pres. (703) 527-8704

2, 25, 47, 63, 80, 84, 87, 89, 103, 107

Civil and Mechanical Engineering; Statistical analysis; Cost-effectiveness analysis; Ship performance; Life Science and Microbiology.

59. CLAREMONT POLYCHEMICAL CORP.
501 Winding Road
Old Bethpage, NY 11804
Hal C. Felsher, Vice President
(516) 420-1500

3, 14, 15, 16, 17, 18, 19, 24, 26, 27, 29, 36, 41, 45, 48, 50, 51, 52, 53, 54, 59, 61, 64, 65, 70, 73, 78, 79, 82, 88, 89, 90, 92, 93, 94, 95, 98, 99, 103, 105, 106, 109, 110, 113, 116, 117, 119, 123

CREATIVE CHEMISTRY. Small particle size capability including encapsulation which is responsive or inert to specific environmental conditions. Rheology of Non-Newtonian materials. Photovoltaic conversion of Solar Energy—economically. Heat and light stabilizers for polymeric materials. Dispersion of small particles in various media to react to specified environmental situations. Synthesis of polymers for specialty applications. Specialty inks and coatings to meet unique requirements. Plasma type "glow discharge" polymerizations. Use of "glow discharge" to change the polarity of surfaces. Effects of radiation on plastics. Di-Polar electro-optical medium utilization. Electro-optical light controls. Sub-micron dipoles produced by the growth of minute-like metal crystals commonly known as "whiskers". Permanent coloration of materials without using conventional colorants.

60. COLORADO SCHOOL OF MINES RESEARCH INSTITUTE
P. O. Box 112
Golden, CO 80401
Thomas A. Sladek, Sr. Project Engineer (303) 279-2581, Ext. 213

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Arlington, VA 22202
Norman C. Witbeck, President
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2, 5, 6, 7, 12, 17, 21, 22, 23, 24, 27, 32, 36, 38, 45, 46, 47, 48, 54, 57, 58, 61, 63, 64, 71, 77, 79, 87, 89, 91, 92, 93, 94, 95, 99, 103, 108, 109, 112, 114, 119, 123, 124

Technical and Administrative support to ship and equipment acquisition managers including CM, DM, reliability, maintainability, safety, human factors & ILS. Energy conservation, conversion & storage. Application of friction reducing additives to fluid flows. Pipeline technology. Marine Engineering. ADP processing of massive configuration data banks.

62. COMBUSTION PROCESSES, INC.
50 East 41st Street
New York, NY 10017
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19, 27, 45, 47, 48, 52, 53, 119

Provides consulting services primarily in relation to new technology for the use of coal, such as fluidized-bed combustion.

63. COMMONWEALTH RESEARCH CORP. 11800 Sunrise Valley Drive Reston, VA 22091 Richard J. Taylor, Sr. Associate (703) 620-3999

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Transportation Systems Consulting. Railroad development. State and Local planning. Analytical services.

64. COMPUTER CORPORATION OF AMERICA 575 Technology Square Cambridge, MA 02139 James B. Rothnie, Jr. (617) 491-3670

(No expertise submitted at time of printing)

65. COMPUTER GENETICS CORP.
18 Lakeside Office Park
Wakefield, MA 01880
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6, 21, 23, 28, 47, 70, 74, 83, 89, 90, 93, 106, 108

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66. COMPUTER HORIZONS, INC.
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Cherry Hill, NJ 08034
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21, 23, 32, 37, 58, 68, 81, 93

R&D evaluation consultants, EDP consultants with background in mathematics, physics, chemistry, biomedicine, sociology, economics, library/information science, computer science and statistics. Computational facility: PDP 11/40 with 56k (bytes) useable core, 2 IBM compatible tapes, cartridge disks, line printer, card reader and paper tape reader/punch. Technical staff in Washington, D.C. also.

67. CONTAX
P. O. Box 740
Silver Spring, MD 20901
Carolyn Bloch, Pres. (301) 622-4351

45, 81, 91

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68. CONTEMPORARY SYSTEMS, INC.
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Jaffrey, NH 03452
John C. Christopher, Pres.
(603) 532-7972 or 532-7038

45, 103

Manufacturers of an integrated warm air solar space heating system.

69. CRESHEIM CO., INC.
1408 E. Mermaid Lane
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James E. Barrett

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47, 77, 88, 112, 116

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70. CROSBY VALVE & GAGE CO.
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71. D'AGOSTINO-YEROW & ASSOCIATES 8561 Arborcrest Drive Cincinnati, OH 45236 Jonathan Yerow

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72. MARTIN J. DARITY CO.
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Montgomery, AL 36102
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4, 14, 20, 23, 25, 27, 36, 48, 78

21, 32, 61, 64, 68, 80

Advertising, Public Relations and Consultant firm. Represent accounts in agriculture, environmental, governmental, city, state and federal political candidates, and others.

73. DATA TRANSFORMATION CORP.
10 Columbus Circle—Suite 1675
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and
1875 Connecticut Ave., N.W.—Suite 1113
Washington, DC 20009
Andrew Thrash, Pres. (202) 332-1442

Computer software analysis and implementation services, mathematical modeling and simulation services.

74. DEL WEST ASSOCIATES, INC.
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Drs. M. Creager/A. W. Sommer
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(No expertise submitted at time of printing)

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Engineering, Program Design and Evaluation, and Policy Research in Energy Conservation, Solar Energy, and Appropriate Technology.

77. DESIGN-DEVELOP-SUPPLY
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78, 103, 107, 113, 119

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78. DEVELOPMENT PLANNING AND RESEARCH ASSOCIATES, INC.
200 Research Drive
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14, 21, 23, 27, 37, 45, 48, 54, 78, 102, 123

Research and consulting firm established in 1960 providing services in economics, marketing, agricultural economics, agriculture, financial analysis, energy economics, environmental economics and international development.

79. DOBLE ENGINEERING CO.
85 Walnut Street
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Watertown, MA 02172
Richard I. Lowe, Pres. (617) 926-4900

24, 49, 70, 110, 111, 113

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Dr. Florence J. Hicks, Executive Director
(202) 483-3306

17, 21, 32, 35, 36, 47, 68, 81, 102, 103, 119

Review of technical literature. Production of technical research reports. Analysis and development of computerized information systems in the areas of environmental safety, ecology, waste disposal systems, health and related areas.

86. ECOMETRICS, INC.
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39

44, 45

87. EDUCATIONAL ASSESSMENT SERVICE
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Evaluation of educational programs.

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93. ENERGY DEVELOPMENT RESEARCH 17, 20, 23, 26, 28, 41, 44, 727-B N. Gordon Street 45, 47, 70, 99, 101, 103, Pomona, CA 91768 108, 110, 111, 112, 112A, Arnold T. Lloyd, Pres. (714) 629-4437 113, 113A, 123

Energy Development Research consultant specializing in energy related technologies. Electrochemistry. Electric/Electronic Systems Engineering. Instrumentation Techniques. Systems Integration.

94. ENERGY DYNAMICS CORP.
6062 E. 49th Avenue
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95. ENERGY RESOURCES CO. 185 Alewite Brook Parkway Cambridge, MA 02138 Henrietta Gates

(No expertise submitted at time of printing)

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7, 27, 45, 46, 47, 103, 112

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39, 48, 101

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49, 90, 108

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67, 68

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P. O. Box 21346
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Edward E. Francisco, Pres.
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106. FULMER RESEARCH INSTITUTE 1522 K Street, N.W.—Suite 334 Washington, DC 20005 K. J. O'Connor (202) 638-2652

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107. GENERAL ENERGY DEVICES
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Clearwater, FL 33518
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45, 103

Developers and manufacturers of solar water and space heating products.

108. GENERAL TECHNICAL SERVICES, INC. 8794 West Chester Pike Upper Darby, PA 19082
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109. GEOCHEM LABORATORIES 1143-C Brittmore Road Houston, TX 77043 Stephen J. Martin (713) 467-7011 9, 59, 89, 95

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110. GLEN A. GILBERT & ASSOCIATES
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78

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111. R. J. GILLIS ASSOCIATES
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Research and development of specialty materials and chemicals for industry.

113. GUMBS ASSOCIATES, INC. 26 Avenue "B" Newark, NJ 07114 Dr. Ronald W. Gumbs, Pres. (201) 824-5110 3, 17, 18, 24, 94, 103, 110, 119

Research and development in chemicals, polymers, adhesives and coatings.

114. J. CHARLES HALPINE
d/b/a Fluid Measurement Systems, Inc.
2030 E. Mohawk Blvd.
P. O. Box 2903
Tulsa, OK 74101
(918) 428-3836

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(No expertise submitted at time of printing)

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(No expertise submitted at time of printing)

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M. Dean Havron, Pres. (703) 893-5200, Ext. 32

William W. Chenault, Vice President, Ext. 53

(Principal Contact)

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121. JOHN P. HUMPHREY 5409 Mason Street Midland, MI 48640 (517) 631-2935

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105 Norton Street
Newark, NY 14513
Dennis C. Mezzatesta, Govt. Mktg. Coordinator
(315) 331-7742, Ext. 11

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124. IMPRINT SERVICES, INC. 482 Summer Street Stamford, CT 06901 Marvin Gold. Pres. (203) 323-3354 38, 40, 44, 47, 74, 78

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125. INDUSTRIAL MATERIALS TECHNOLOGY 24, 45, 46, 76, 79, 82, 113
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127. INNOVATIVE SYSTEMS RESEARCH, Inc. 103 E. Cooper River Plaza Pennsauken, NJ 08109
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Advanced Technology Research. Decision Sciences. Experimental Social Sciences Research. Educational Planning. Information Sciences.

128. INPUT OUTPUT COMPUTER SCIENCES
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Cambridge, MA 02138
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(617) 661-8700

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12, 47, 70

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134.

ITHACO, INC. 735 W. Clinton Street

Ithaca, NY 14850 E. W. Seymour

(No expertise submitted at time of printing)

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Engineering and manufacturing. Research. Flowmeters, spirometer (a small flowmeter for measurement of human lung capacity); anemometer; air speed indicator; water current meter for measurement of fluid flow to depths of 500 feet; flowmeter for measurement of gas and liquid flow rates in pipes; automobile fuel metering systems. 136. JACOBS-WINSTON LABORATORIES, Inc. 25 Mt. Vernon Street Ridgefield Park, NJ 07660 Marvin E. Winston, V.P. (212) 962-6536 9, 27, 40, 55, 65, 84, 99, 115

Food chemistry, including microbiology and pesticide residue tests using gas chromatography; specializing in macaroni, noodles, fish, egg, meat products; also sanitation.

137. JENIKE & JOHANSON, INC. 2 Executive Park Drive N. Billerica, MA 01862 John W. Carson, V.P. (617) 667-5136 9, 19, 23, 45, 47, 49, 52, 54, 88, 110, 112

Consulting engineers specializing in the storage and controlled flow of bulk granular solids, with applications in problems involving bin flow, feeders, plant design, stand pipes, compaction, chute design, moving bed reactors, and loads on bin walls. Also perform contract research in the above fields and sell a line of test equipment used to measure solids flow properties.

138. JOHNSON ENGINEERING CO. 17 N. Drexel Avenue Havertown, PA 19083 Herbert G. Johnson (215) 446-4540 15, 24, 27, 30, 45, 56, 77, 79, 82, 94, 103, 104, 108, 114, 116, 119

Extensive background in solid-phase forming of metals and polymers, valves and piping components; and in power generation, materials and recycling

139. THEODORE JONAS/ASSOCIATES LTD. 2009 N. 14th Street—Suite 201
Arlington, VA 22201
James T. Ferguson, Associate (703) 527-8555

10, 12, 19, 24, 27, 34, 45, 51, 52, 53, 56, 60, 75, 92, 95, 103, 107, 109, 119, 123

Consultants in government-sponsored R&D programs in energy, environment (air, land and water), analytical instrumentation, land use, chemistry and chemical engineering.

140. JONES ASSOCIATES
11 West Pennsylvania Avenue
Baltimore, MD 21204
Lawrence E. Jones, Pres. (301) 296-7111

23, 36, 38, 47, 48, 60, 61, 65, 95, 109

Offers innovative professional engineering analysis, planning and design services to industry and government in ecology, civil engineering, environmental engineering, technology transfer, regulatory analysis, and technology management. Current assignments for clients in the public and private sectors include comprehensive technical and program analyses of environmental regulations promulgated pursuant to the Water Pollution Control Act, the Safe Drinking Water Act, and the Toxic Substances Control Act.

141. KAR LABORATORY
1711 Merrill Street
Kalamazoo, MI 49008
John Karnemaat, Director (616) 381-9666

9, 12, 15, 18, 81, 99, 119

Product Development. Waste Utilization. Environmental Monitoring.

142. A IAN B. KAMMERMAN 11623 Kelvin Avenue Philadelphia, PA 19116 (215) OR 7-3955 93

R&D in Physics.

143. DR. E. M. KIPP Suite A, Station Square Two Paoli, PA 19301 (215) 647-4631 14, 17, 19, 24, 27, 45, 53, 69, 76, 79, 82, 92, 109, 115

R&D Management including intracorporate problems. Science and Technology including energy resources and utilization, new product and process innovations, and Chemical Engineering. Lubrication Engineering Sciences including all aspects such as custom formulations, training programs and consultation.

144. CHARLES KLABOSH CO. 815 S. Main Street P.O. Box 5690 Jacksonville, FL 32207 Charles Klabosh (904) 396-2180 6, 7, 10, 22, 25, 26, 46, 64, 70, 71, 88, 91, 108, 119

Capabilities in Aerothermodynamics of propulsion flight test engineering and management; Configuration management of large complex system from concept to implementation especially within an existing force structure; Operations management of manned activities within engineering or physically encumbered environments. Design of digital logic controlled manipulator systems; Electric powered surface vehicle design, operations and logistics. High performance combustion system design; engines piston and gas turbine installation design and performance analysis.

145. L'GARDE, INC. 1555 Placentia Avenue Newport Beach, CA 92660 Alan R. Hirasuna, Director/Administration (714) 645-4880 5, 6, 24, 44, 47, 70, 79, 113

Specializes in the fields of design, materials, instrumentation and telemetry, heat transfer, and aerodynamics which support three product areas:
(1) Inflatable structures which include applications for flight environments;
(2) Development of elastomers for severe environments including geothermal downhole conditions and x-radiation; and (3) Small, low cost, analog and/or digital, continuous-loop cartridge, environmental magnetic tape recorders.

146.

LABCONCO CORPORATION 8811 Prospect Avenue Kansas City, MO 64132 John N. McConnell, VP/Marketing & Sales (816) 363-6330 9, 48, 49, 84

Laboratory equipment and apparatus.

147. LANCASTER LABORATORIES, INC. 2425 New Holland Pike Lancaster, PA 17601 Dr. Earl H. Hess, Pres. (717) 656-2301

9, 13, 15, 17, 23, 24, 35, 54, 55, 66, 84, 91, 95, 99, 106, 110, 119

Chemical analysis and microbiological testing and consulting service to agriculture, agribusiness and industry. Quality Control. Air and water pollution monitoring and control. Wastewater treatability. Waste and by-product utilization. Potable and wastewater analysis. Consulting in polymer research, development and analysis. Computer services. Analysis of pharmaceuticals.

148. LIFE SYSTEMS, INC. 24755 Highpoint Road Cleveland, OH 44122 Dr. R. A. Wynveen, Pres. (216) 464-3291 17, 21, 28, 40, 41, 44, 45, 49, 51, 70, 84, 95, 108

Major technical strengths in the following areas: Air Revitalization Systems including carbon dioxide concentration and reduction, electrochemical oxygen and hydrogen generation (water electrolysis and solid electrolyte (continued)

electrolysis), removal of oxidizable contaminants, nitrogen generation, humidity control; Water and Waste Treatment Systems including water disinfection and sterilization, ultrafiltration, reverse osmosis, ozonation, ion exchange and hypochlorination; Computer-oriented instrumentation including control, monitor, data acquisition and sensors; Electrochemical applications to processes and sensors (total organic carbon, chemical oxygen demand, biocides, gas contaminants).

149. LINK ENTERPRISES, INC.
P. O. Box 11073
Montgomery, AL 36111
Katherine S. Link, President
(205) 288-2906, 288-7002 or 281-7267
Delivery address:
Highway 31 South, Hope Hull, AL

4, 20, 38, 39, 50, 72, 85, 103

Consultant and Training Services. Specialize in custom design of training materials or programs to fit the special needs of the customer. Programs produced in slide/tape, filmstrip or microfiche format. Design and produce handouts or manuals.

150. LINKABIT CORPORATION
10453 Roselle Street
San Diego, CA 92121
Dr. I. M. Jacobs, Pres. (714) 453-7007

20, 21, 86, 93

Systems studies; software and hardware manufacturing; digital communications with emphasis on satellite communications; error-correcting coders and decoders; modulation-demodulation techniques; television and voice data compression; applications of microprocessors to communication; optical fiber communication.

151. LITRON LABORATORIES, LTD.
1351 Mt. Hope Avenue
Rochester, NY 14620
Dr. Andrew M. Tometsko, Pres.
(716) 275-4008

9, 12, 13, 17, 21, 32, 35, 45, 72, 81, 84, 110

Research and development capabilities in chemical, biological and computer sciences. Biomedical interests involve drug design, structure-function relationships in biological systems and applied enzymology. Evaluations of toxicity, mutagenicity, and carcinogenicity of chemicals are carried out routinely.

152. LITTLETON RESEARCH & ENGINEERING 2, 26, 30, 32, 47, 63, 70, 95 Russell Street 77, 87, 89, 107, 112, 115 P. O. Box 128 Littleton, MA 01460 F. Everett Reed, Pres. (617) 486-3526 or 3039

Applied Mechanics: dynamics, vibrations, stress analysis, fluid dynamics, heat transfer, bearings and lubrication. Computer programs. Large scale programs on ship vibrations using STARDYNE and NASTRAN programs. Engineers with long and varied experience. Ship vibration and noise control. Cryogenic Design. Armor design using statistical procedures.

153. LOMBARD SYSTEMS, INC. 1196 Andre Avenue Mountain View, CA 94040 R. G. Baron, Pres. (415) 965-3682 2, 20, 21, 22, 28, 32, 86, 100, 101, 108

Technical disciplines on measurement, communication, processing and control. Principle areas of expertise are in acoustic signal and data processing for undersea and nuclear surveillance, navigation and guidance, geophysical data acquisition and processing, process monitoring and control, and data and information processing systems. Provides turkey systems and technical/management services to government and industry.

154.

C. H. LUHRS & CO.
P. O. Box 1786
S. Hackensack, NJ 07606
C. H. Luhrs (201) 772-0620

42, 49

Microwave devices.

155. MBAssociates
Bollinger Canyon Road
P.O. Box 196
San Ramon, CA 94583
Robert Mainhardt, Pres. (415) 837-7201

2, 5, 6, 7, 15, 17, 19, 103, 108, 121

Passive Countermeasures Systems, Dispensers, Flare and Chaff, Small Ordnance Items, Pyrotechnics, Electro-Mechanical Systems, R&D.

156. MERADCOM 60
(U.S. Army Mobility Equipment
R&D Command)
Small Business and Economic Utilization Advisor
Ft. Belvoir, VA 22060
ATTN: DRDME-ZV
(703) 664-2482

157. McLAUGHLIN RESEARCH CORP. 1110 Spring Street Silver Spring, MD 20910 Daniel Scherr (301) 585-7100 22, 32, 44, 45, 50, 68, 87, 97, 108

Systems engineering; Energy system analysis; Navy claims prevention and analysis; Management information systems; Configuration management; Integrated logistic support systems; Electronic data processing; Technical publications; Film production-technical, training and publicity. In conjunction with the NavOrd and NavShips, develops the ORDLIS and SECAS systems and the implementation handbooks for those systems.

158. Mac ARTHUR RESEARCH CO. RD #2, Box 264
Malvern, PA 19355
Arthur MacArthur

(No expertise submitted at time of printing)

159. A. Mac DONALD ENGINEERING 1235 Ashland Avenue Wilmette, IL 60091 A. MacDonald (312) 256-4688 40, 45, 82

Energy conservation; Metal processing; Industrial foundries die casting. Utilization of electric energy from sources that are not constant. Supply varies.

160. MAN FACTORS, INC. 4433 Convoy Street San Diego, CA 92111 Peter H. Selby, Exec. VP (714) 277-2611

1, 25, 26, 28, 38, 39, 47, 64, 66, 70, 72, 91, 96, 102, 108

Primarily a human factors consulting, R&D firm. Specializing in human factors engineering, life support, personnel and training requirements. Provides such services as: Human engineering of commercial products for safety and user effectiveness; analysis of user (human) requirements in building design, office and plant layout, employee effectiveness and safety; design of operator/maintainer work stations for maximum cost-effectiveness; analysis of training requirements and design of training programs, (continued)

including development of performance-oriented training objectives and course curricula, training aids, content and design of presentation methodology; investigations of work capabilities of divers at various depths, performing various tasks; requirements and layout analysis of displays and controls of man-operated systems; analysis of environmental hazards and their effects.



MAN-SYSTEMS, INC. 3107 McDow Avenue Huntsville, AL 35805 12, 23, 61, 64, 91, 102

Edward L. Saenger, Pres. (205) 536-3983

Primarily specializing in Human Factors Engineering, Evaluation of Environmental Hazards and Industrial/Graphics Design.

162. MAROTTA SCIENTIFIC CONTROLS, Inc. 28, 47, 77, 78, 88, 108, Boonton Avenue 112A, 113A Boonton, NJ 07005 William T. Browne, Jr. (201) 334-7800, Ext. 275 Director of Sales & Marketing

(A) The development, design and manufacture of valves, electro-hydraulic and electro-pneumatic systems. (B) The design and fabrication of hydraulic power units up to and including 300 HP (this work performed at our subsidiary company, General Hydaulics Corp., Huntsville, AL). (C) High pressure, high flow test capability (gaseous nitrogen or standard hydraulic fluids and water). The high pressure pneumatic facility has pressures up to and including 15,000 PSIG and instantaneous flow rates up to 40,000 SCFM. Pressures-Oil pressures to 5,000 PSIG; flow rates to 150 gallons per minute. Water flow rates to 200 gallons per minute. (D) Environmental/temperature testing during pressure of flow tests. (E) Limited subsea/depth component testing. AREAS OF INTEREST: (1) ENERGY: a) Nuclear Power; b) Solar; c) Coal Conversion; d) Offshore oil/gas. (2) BASIC METALS: a) Aluminum sheet or foil; b) Steel; c) Specialty non-ferrous materials. (3) TRANSPORTATION: a) Aircraft; b) Ships; c) Spacecraft; d) Road vehicles; e) Track vehicles. (4) SPECIAL MACHINERY: a) Force/load simulators; b) Positioning, speed or rate controls; c) High temperature, corrosion, high pressure controls.

163. MARTIS ASSOCIATES 618 E. 10th Street Berwick, PA 18603 Jerome M. Martis, Sr. (717) 759-8618 2, 3, 5, 6, 7, 9, 14, 20, 21, 22, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, 37, 40, 44, 45, 47, 48, 49, 56, 57, 58, 60, 63, 67, 68, 70, 74, 76, 78, 79, 80, 82, 88, 90, 93, 95, 99, 100, 101, 103, 107, 108, 109, 111, 112, 112A, 113, 113A, 114, 116, 117, 118, 121

12, 13, 17, 21, 30, 32, 81, 84, 110

Oriented in support functions in engineering, estimating, cost control and project management in high technology areas involving energy systems, aero-space, vehicles in special dynamic transportation modes, structual dynamics, advanced materials and stress studies of advanced structures for aerospace. In general, interested in complete projects that requires technical and cost management and that requires organized team cooperation to get a program on a planned schedule involving a total information system.

164. MASON RESEARCH INSTITUTE
57 Union Street
Worcester, MA 01608
Dr. John C. Landon, Pres. (617) 791-0931

Biomedical Research, Toxicology, Pathology, Reproductive Physiology, Drug and Chemical Safety and Efficacy Testing, Biomedical Data Processing.

165. MASSACHUSETTS SCIENCE AND TECHNOLOGY FOUNDATION
10 Lakeside Office Park
Wakefield, MA 01880

12, 14, 19, 45, 48, 60, 75, 78, 103, 109, 117, 119, 123

Irving Sacks, Acting Director (617) 246-1250

Service agency dedicated to furthering the economic well-being of Massachusetts through improved liaison with the outstanding scientific and industrial communities in the Commonwealth. Within the scope of science and technology, activities may take many forms, but in each instance, the main objective will be to solve unavoidable and critical technical problems, and stimulate the general economy. It is the policy of the Foundation not to duplicate services and facilities available elsewhere within the Commonwealth, but rather to perform its function through the medium of existing talent and resources wherever possible. ACTIVITIES INC LUDE: Technology Exchange; Advisory Service; Program Management; Technology Grants; Study Initiation; Meeting Support.

166. MASSDESIGN ARCHITECTS & PLANNERS 27, 45, 61, 97, 103, 109
138 Mt. Auburn Street
Cambridge, MA 02138
Gordon F. Tully (617) 491-0961

Energy Conservation Consultants. Energy; Graphic Arts; Publishers; Solar Energy; Technology Transfer.

17

167. MATACHEM RESEARCH CORP.
432 Cherry Hill Blvd.
Cherry Hill, NJ 08034
Dr. Ralph Matalon (609) 667-8233

Chemistry. Manufacturer of perfume.

- MATHEMATICAL SCIENCES NORTHWEST 37, 45, 48, 74, 80
 P. O. Box 1887
 Bellevue, WA 98009
 Peter H. Rose, Pres. (206) 827-0460
 G. F. Kugler, VP/Administration
 High energy gas laser technology; fusion technology; economic studies; environment, resource conversion and engineering studies.
- 169. MEGA ANALYTICAL RESEARCH SERVICES 5, 40, 47, 77, 90, 107 11499 Columbia Pike Silver Spring, MD 20904 Dr. Richard E. Dame (301) 622-4030

Specializes in design and analysis of prototype systems on a dedicated client basis including mechanical, electrical design of spacecraft systems, hydrospace systems, optical instruments and remote manipulator devices. Fabrication, test and evaluation of experimental verification units. Structural, thermal and mechanical R&D.

170. MERCURY COMMUNICATIONS 97
730 Mission Street
Santa Cruz, CA 95060
Catherine Carmel, VP/Marketing (408) 425-8444

 $\label{thm:lighteneq} \mbox{High-technology business publications and consulting.}$

171. MET ELECTRICAL TESTING CO., Inc. 12, 26, 40, 49, 111 916 W. Patapsco Avenue Baltimore, MD 21230 Leonard Frier, Pres. (301) 354-2200

Biomedical Sciences. Instrumentation Consultants. Electrical Engineering. Laboratory and Industrial Equipment. Electrical Testing.

172. METAL BELLOWS CORP.
1075 Providence Highway
Sharon, MA 02067
Elton M. Tucker, Assistant Division Mgr.
(617) 668-3050, Ext. 118

6, 12, 28, 49, 70, 88, 108, 116

Design, development and production of metal bellows components and systems for sealing, pumping, sensing and controlling in nuclear, medical, aerospace and industrial process applications. Application of advanced technology to precision forming, brazing and welding of foil thickness metals.

173. METEX CORPORATION
970 New Durham Road
Edison, NJ 08817
Bertram R. Rashkow (201) 287-0800

124

Designs, engineers, manufactures and sells knitted wire mesh products for a great many widely diverse industrial applications. Primary end use applications include EMI/RFI shielding, shock-mounts, flame arrestors, mist eliminators, filters, noise attenuators and many others

174. MILMARK RESEARCH, INC. P. O. Box 87 Bernville, PA 19506 Dr. Sheldon L. Clark (215) 488-6002 9, 13, 17, 35, 66

Industrial hygiene (laboratory services), toxicology, including drug screening and quantitation. Biological and biochemical research, including enzymes, lipids, steroids, proteins, immuno-chemical analysis, tissue cultures. Product formulation, testing and manufacturing for private labels.

175. MOLECULON RESEARCH CORP. 139 Main Street Cambridge, MA 02142 Arthur S. Obermayer, President (617) 547-2353 3, 9, 17, 23, 24, 35, 41, 47, 50, 51, 63, 65, 73, 74, 79, 93, 94, 99, 103, 105, 106, 109, 110, 113, 124

Specializes in research, development and consulting in chemistry polymers and allied fields. These services, performed for private industrial clients and for government agencies, range from feasibility studies and product development, to problem solving, chemical engineering investigations, and process development. Facilities include well-equipped laboratories for conducting chemical and physical experiments as well as facilities for pilot scale unit operations including film casting, fabric coating, extraction processes, emulsification, spray drying, mixing, filtration, sifting, extrusion, purification, grinding, etc. Manufactures POROPLASTIC R film and SUSTRELLE TMpowder. These polymeric materials are best described as a solid composed mostly of liquid or alternatively, as a molecular sponge. Amounts ranging from 70% to 98% of almost any liquid can be held within the cellulose triacetate matrix of which Poroplastic or Sustrelle is composed. A variety of procedures can be used to control the rate of mechanism by which a liquid or precipitated solid can be released from this polymeric matrix. Product applications are in a variety of consumer, industrial and technical product applications such as controlled release of fragrances, flavors, medicinals and pesticides; and the separation of biological fluids and industrial liquids.

176. MONA INDUSTRIES, INC. 65 E. 23rd Street Paterson, NJ 07524 Dr. Karl Heyman, VP/R&D (201) 274-8221, Ext. 12 9, 17, 18, 29, 51, 55, 66, 67, 68, 70, 75, 79, 91, 94, 95, 96, 99, 106, 110, 116

Manufacture of organic synthetic chemical specialties.

177. MORRIS & WARD 5817 Plainview Road Washington, DC 20034 Dr. Alan D. Morris (301) 320-4900

40, 47, 65, 75

Technology assessment. Power Plant Siting. Mechanical, electrical and hydraulic systems. Science and law.

178. WILLIAM M. MOSCRIP Route 2, Box 474 Fredericksburg, VA 22401 (703) 775-7207 16, 47, 53, 72A, 74, 79, 87, 94, 121, 123

Inventor. R&D in mechanical/electrical/materials science area. Naval science; Naval weapons; interior ballistics; guided projectiles. Hardware prototype development. Prestressing refractory brittle materials to be used in gun barrels; projective/missile control fin actuator. Wind energy conversion. Stirling engine design; gas turbine design; synthetic fuel processes; thermal energy storage; heat pipe technology; solar pond design. High temperature ceramics; amorphous metals. Machine design; automotive design; fluid power generation; ship design, high speed hydrofoils. Gun design technology; precision guided ordnance; high energy lasers.

179. MULTISYSTEMS, INC. 1050 Massachusetts Avenue Cambridge, MA 02138 Carole J. Berkson (617) 864-5810

(No expertise submitted at time of printing)

180. NATIONAL TESTING SERVICES 1905 Chapel Hill Road Durham, NC 27707 Carol Hill

(No expertise submitted at time of printing)

181. NAVAL AIR DEVELOPMENT CENTER Street & Jacksonville Roads Warminster, PA 18974 Rose G. Mandrack

(No expertise submitted at time of printing)

182. NORTHWEST RESEARCH AND COUNSELING SERVICE
P. O. Box 461
Richland, WA 99352
Amos F. Warren, General Manager (509) 967-3684

3, 24, 27, 96, 99, 108, 113,

Research and consultants specializing in roofing problems, epoxy floor problems and waterproofing problems. In-plant seminars. Seminars by invitation.

183. O'DONNELL & ASSOCIATES, INC. 5100 Centre Avenue
Pittsburgh, PA 15232
William J. O'Donnell, President
Ray G. Fasiczka, Vice President
(412) 687-7715

1, 2, 19, 21, 24, 45, 47, 63, 79, 82, 88, 93, 96, 103, 107, 112, 113

Engineering design and analysis services. Activities include stress analysis and certification of components, dynamic and seismic analysis, elastic and plastic analysis, nuclear fuel studies, reliability analysis, systems (continued)

analysis, fatigue and failure analysis. High pressure and high temperature component analysis and criteria development.

OPTELECOM, INC. 15940 Shady Grove Road 184. Gaithersburg, MD 20760 William H. Culver, Pres. (301) 948-4232 20, 25, 45, 74, 86, 90, 93, 103, 105, 106, 121

Manufactures and designs modulators, semiconductor lasers, laser arrays, high brightness illuminators, optical fibers, fiber optic cables, solar concentrators, and communications systems.

OTISCA INDUSTRIES, LTD. 185. P. O. Box 186 LaFayette, NY 13084 Clay D. Smith, Pres. (315) 475-5543

> Fossil fuel mining, extraction, and upgrading research and development and process construction.

186. PACIFIC SIERRA RESEARCH CORP. 1456 Cloverfield Blvd. Santa Monica, CA 90404 Richard J. Boberg (213) 828-7461

(No expertise submitted at time of printing)

187. PANDALAI COATINGS CO. 618 Dahlia Drive Monroeville, PA 15146 Krish Pandalai (412) 373-7493 17

45

Research, development and manufacture of organic coatings for the coil coating, transportation and maintenance industries.

PAYNE, INC. 1933 Lincoln Drive 188. Annapolis, MD 21401 Peter R. Payne, Chmn. (301) 268-6150 5, 6, 7, 24, 27, 34, 45, 46, 47, 51, 57, 63, 77, 87, 103, 114, 119, 123

In business since 1964, Payne, Inc. is a high technology R&D company with rather complete design and manufacturing capabilities. Worked for all three armed services, and ERDA, as well as many private companies. Especially strong in developing innovative hardware to solve a customer's problem. Recent developments include the Sea Knife, a low cost planning bull with the ride of a hydrofoil, the water pulsejet pump and propulsor (a heat engine with no moving parts), lightweight concrete solar collectors, and the Sosolese shore erosion protection system.

PENETRADAR CORP. 190. 6865 Walmore Road Niagara Falls, NY 14304 Anthony V. Alongi, Pres. (716) 731-5937 6, 40, 42, 44, 70, 80, 86, 100, 101

Ground-Penetrating-Radar Technology. High-Resolution Radar. Radar Propagation and Scattering. Target Identification. Radar Systems Analysis and Design. Electronic Warefare Analysis.

191. PENN STATE ENGINEERING P.O. Box 177 State College, PA 16801 Norman A. Katz, Pres. (814) 238-5013 47

Civil engineering.

JAMES L. PLUMMER 8913 Footstep Court Annandale, VA 22003 (703) 978-2911

14, 37, 45

Economic modeling; benefit cost analysis; risk-benefit analysis; energy economics; environmental economics.

193. POLYSCIENCES, INC.
Paul Valley Industrial Park
Warrington, PA 18976
Dr. B. David Halpern, Pres.
(215) 343-6484

12, 13, 17, 24, 33, 43, 81, 94

Consultant and sponsored research in polymers, monomers, production, market development, formulations, applications and evaluation for all areas of plastics use. Specialties in medical and dental polymers, contact lenses, enzyme substrates, implant polymers, FDA materials, acrylics, PVC, polyvinyl alcohol, water-soluble polymers, thermosets, adhesives, latices, forest products, coatings, textiles and new monomers. 20,000 sq. ft. laboratories with full synthetic and pilot capability. Current confidential client relationships with major and small companies.

194. PRESEARCH, INC.
2361 S. Jefferson Davis Hwy.
Arlington, VA 22202
Leonard P. Gollobin, President
(703) 920-5740

2, 21, 22, 23, 25, 32, 40, 45, 47, 48, 58, 64, 65, 68, 71, 77, 80, 81, 87, 88, 89, 93, 99, 103, 108, 121

Performs studies and analyses and provides inputs for management decision—making; largely for the Department of Defense. Specific areas include naval warfare; strategic studies and projections; resource management (manpower, personnel and training, costing); and data processing support including systems analysis and programming.

195. PRODUCT RESOURCES INTERNATIONAL 90 Park Avenue New York, NY 10016 Eugene F. Whelan (212) 682-2966 3, 10, 17, 18, 35, 69, 109

Represent selected inventors on a no-fee, share-of-the-action basis. Also conducts invention-searches on behalf of companies in return for a fee paid by the company(s). (The inventor or technology owner pays nothing.)

196. PRODUCTION COMPONENTS, INC.
Building I, El Tesoro Road
P.O. Box 7
Ranchita, CA 92066
E. S. Christensen, Pres. (714) 782-3339

45, 46, 47, 76, 103, 118, 123

Precision Machining—Tool and Die work. Thirty-two years in business of designing and building specialized machines-dies-equipment and processes. Holder of patent on thermal engine. Others pending.

197. PYROMET INDUSTRIES
595 Industrial Road
San Carlos, CA 94070
Tom Hikido, Vice President
(415) 591-7161, Ext. 35

3, 6, 7, 9, 15, 16, 19, 24, 45, 46, 47, 49, 74, 76, 79, 82, 88, 99, 103, 113, 119, 121

Brazing and heat treating. Metallurgical research & development. Production of aerospace hardware. Refurbishment of jet aircraft engine parts.

198. QUALITY BAKERS OF AMERICA CORP.
1515 Broadway
New York, NY 10036
Dr. Simon S. Jackel, Vice President
(212) 790-9225

Full service laboratory and consulting facilities for bakery foods and for application of ingredients, processes and products in the baking industry.

199. QUEST RESEARCH INTERNATIONAL, Inc. (formerly Howe-Baker Engineers) 66, 92, 95, 99, 106, 110 P. O. Box 478
Tyler, TX 75710 Tom H. Cheavens, Research Director (214) 597-4174

Process research, refining and petrochemicals; combustion analytical services; industrial hygiene; waste water; petroleum products.

200. RAD SERVICES, INC.
9381 "C" Davis Avenue
Laurel, MD 20810
Edward Wellner, Operational Manager
(301) 953-9583

Transportation, packaging, storage and disposal of radioactive and chemical waste. Maintenance, calibration, repair, leasing, purchasing and sales of radiation instrumentation. Radioactive laundry service and environmental monitoring services including consultation, instrumentation and TLD, film

26, 48, 66, 70, 95

201. RADIATION MANAGEMENT Science Center Building Two 3508 Market Street—Suite 30 Philadelphia, PA 19104 Bernard T. Geehan

badge dosimetry.

(No expertise submitted at time of printing)

202. E. RAU ENTERPRISES
40 Salisbury Avenue, Stewart Manor
Garden City, NY 11530
(Mailing address: P.O. Box 443
Floral Park, NY 11001
Dr. Emil D. Rau, President
(201) 440-3277 or (516) 488-2796

(201) 440-3277 or (516) 488-2796
Saline chemicals. Fermentation. Wood chemistry. Coal chemistry.

203. REMTECH, INC. 2603 Artie Street, Suite 21 Huntsville, AL 35805 Charles E. Fuller, VP (205) 536-8581

Agricultural systems. Solar energy.

2, 5, 6, 7, 27, 32, 40, 45, 47, 57, 63, 74, 80, 90, 93, 95, 101, 103, 108, 114, 123

14, 15, 17, 18, 45, 61, 103

Firm is qualified to conduct programs in Energy Transfer, Fluid Mechanics, Environmental Control, and System Analysis. Experience includes Combustion, Gaseous Radiation, and Aerodynamic Heating Analyses; Laser Doppler Velocimetry, Ground Test Support and Instrumentation Design; Building Noise Surveys conducted for the government, universities and industry. The company has amplified its technical capabilities for Solar Energy System Design, Building Heat Load Analysis, and Energy Resource/Conservation Studies.

204. RESEARCH DYNAMICS, INC.
P.O. Box 65, Village Station
New York, NY 10014
Dr. Raymond DiMartini. Director

12, 41, 44, 93, 106

Electrochemistry, spectroscopy and biomedical instrumentation. Multidisciplined research services are offered within these fields by utilizing contemporary microelectronics technology with novel interpretations of fundamental physical principles. Physical and chemical parameters of problems are investigated and interpreted in terms of up to date technological literature available and in terms of the development required to attain a specific goal or produce a specific device. Traditional approaches are critically reviewed and evaluated in relation to the interpretation developed.

205. ROCKVILLE CONSULTING GROUP, Inc. 505 Second Street, N.E. Washington, DC 20002 Stuart A. Lichtman, President (202) 543-1040

14, 37, 69, 72, 78, 102, 109, 117

Support to venture capitalists and other investors dealing with high technology firms.

206. ROOT DEVELOPMENT CORP.
Orentreich Medical Group
909 Fifth Avenue
New York, NY 10021
Dr. Joseph H. Vogelman (212) 794-0835

9, 12, 17, 81

Biomedical instruments and processes in endocrinology, heart measurements, thyroid responses, chemical responses. Measure blood levels, hormone levels, analysis of dermatological effects of household remedies on skin. Analysis of products for allergy potential. Computerized electrocardiagrams.

207. GEORGE KNOX ROTH P.O. Box 811 Claremont, CA 91711 (714) 624-4801

(No expertise submitted at time of printing)

208. ROTHENBUHLER ENGINEERING CO. 20, 28, 40, 47, 77, 101, Rhodes Road 103, 112, 123
P.O. Box 192
Sedro Woolley, WA 98284
Howard Rothenbuhler, Pres. (206) 856-0836

Originally founded to build radio control systems for the Forest Products Industry, company has grown to manufacture bank alarm systems, intrusion detection, scanning and monitoring equipment and single side band radios as well as the Talkie Tooter remote 2-way radio. Engineering testing, consulting, and custom engineering and manufacturing in the electronics field are also offerred with recent emphasis on wind generators and energy conservation.

10, 44, 45, 76, 104

209. SGL INDUSTRIES, INC.
76 Euclid Avenue
Haddonfield, NJ 08033
Jonathan R. Lax, Vice President
(609) 429-7400

Manufacturers of electrical and electronic, metal and plastic products. Providers of industrial services. Divisions include:

SGL Batteries Manufacturing 14650 Dequindre Detroit, MI 48212 (313) 868-6410

Specializes in producing lead-acid batteries for "high-drain" applications such as in-plant equipment, electric-powered golf carts, electric automobiles, and trucks and buses——SGL Deep Cycle TM batteries.

SGL Auburn Spark Plug Co. 89 York Street Auburn, NY 13021 (315) 252-9501

Manufactures Auburn TM line of engineered, specialty igniters, liquid level control electrodes, electric feed-throughs, motor terminals, and observation ports.

SGL WABER Electric 300 Harvard Avenue Westville, NJ 08093 (609) 456-5400

Manufactures SGL Waber $^{\rm R}$ electric power outlet boxes, SGL Power Master $^{\rm TM}$ multiple outlet strips, and instrument transports.

SGL Electronics 300 Harvard Avenue Westville, NJ 08093 (609) 456-7300

Manufactures high-performance magnetic components, magnetic laminations and cores.

SGL Printed Circuits 827 Black Oak Ridge Road Wayne, NJ 07479 (201) 835-2765

Produces custom electronic circuitry.

SGL Abrasives North Pitt Street Extended Carlisle, PA 17013 (717) 243-3471

Manufactures grinding wheels and abrasive shapes, "super-speed" grinding wheels, and abrasive segments.

SGL Piping Systems 302 Falco Drive Newport, DE 19804 (302) 995-6136

Manufactures Galaxie TM line of piping components (stub ends, coils and pipe elbows) used in petrochemical plants; integrated piping systems.

B&S Screw Machine Products a division of SGL Industries, Inc. 204 North Chester Pike Glenolden, PA 19036 (215) 724-4366

Manufactures metal and plastic screw machined parts.

SGL Plastics Route 248 Nazareth, PA 18064 (215) 759-0280

Produces custom components parts, through the injection molding, profile, and sheet extrusion processes.

SGL Graphics John Fitch Industrial Park Warminster, PA 18974 (215) 672-3600

Produces fiberglass signs and displays through the proprietary Modulite R and Moducal $^{\rm R}$ processes which offer superior resistance to vandalism, sunlight, chemical fumes and weather.

SGL Homalite 11 Brookside Drive Wilmington, DE 19804 (302) 652-3686

Produces crystal-clear and colored plastic sheets, tubes, and rods. Homalite $^{\mathrm{T}M}$ plastics exhibit superior resistance to abrasion, impact and radiation. Produces Homalite-LR (low-glare) instrument panels and faceplates.

SGL Modern Creative 35 Market Street Elmwood Park, NJ 07407 (201) 791-7700

Provides services to coat, frost and print glass and plastic containers.

SGL Modern Hard Chrome Service Cover & River Roads Pennsauken, NJ 08110 (609) 665-8600

Provides hard chromium, electroless nickel and copper plating.

SGL LUBE/systems 280 Midland Avenue Saddle Brook, NJ 07662 (201) 791-6200

Manufacturer of automatic grease feeders used in industrial applications.

210. STD RESEARCH CORPORATION
150 E. Foothill Blvd.
P. O. Box "C"
Arcadia, CA 91005
Dr. John C. Cutting, VP
(213) 445-7000

5, 6, 7, 17, 19, 21, 23, 24, 27, 34, 40, 42, 44, 45, 46, 47, 48, 49, 52, 57, 58, 63, 68, 70, 74, 78, 79, 80, 93, 95, 103, 108, 111, 112, 113, 114, 119, 122, 123

Analytical modeling and systems analysis of open cycle MHD. Detailed thermodynamics analysis of combustion liquefication and gasification of coal. Interests: Conservation, oil, coal, gas utilization, solar energy.

211. SACHS/FREEMAN ASSOCIATES, INC. 5809 Annapolis Rd. ——Suite 512 Bladensburg, MD 20710 Ernest Freeman, President (301) 927-4980

20, 21, 22, 25, 32, 40, 42, 44, 47, 61, 68, 71, 74, 80, 86, 90, 93, 100, 108, 121

COMMUNICATION SYSTEMS: Public Safety; Emergency Medical; 911; Radio Common Carrier. ENGINEERING SERVICES: EMC; Specifications and Stadards Development; ECM; Communication and Radar Systems Analysis; Electro-Mechanical Design; Laser/Optics; Design/Drafting. MANAGEMENT SCIENCES: ILS/CM/Training. COMPUTER SCIENCES: Systems Design and Specifications; ADP; Simulation/Modeling/Displays/Analysis.

212. SAMANIE, INC. P.O. Box 694 Alexandria, VA 22303 Anne B. Bryan

(No expertise submitted at time of printing)

213. SCIENTIFIC ASSOCIATES, INC. 1639 - 12th Street Santa Monica, CA 90404 Dr. Eugene B. Nebeker, President (213) 451-1344 23, 45, 47, 114, 123

Performs R&D and consulting services within the general field of chemical and mechanical engineering. Typical activities involve both theoretical and experimental work in fluid mechanics, heat and mass transport, and thermodynamics. Primary ongoing activities are in development of original concepts for oil spill skimming in high seas, rock excavation with water jets; and wind-energy conversion. The company has also been engaged in industrial consulting on environmental impact studies.

214. SEAWARD INTERNATIONAL, INC. 6269 Leesburg Pike Falls Church, VA 22090 E. F. Daly, VP (703) 534-3500

48, 63, 77, 87, 89, 95

Development of equipment for control of marine pollution, particularly that due to oil and hazardous materials. Search and recovery of lost underwater objects. General ocean engineering.

215. SERVICE ENGINEERING ASSOCIATES 27, 45, 65, 81 3960 Peachtree Road, N.E. Atlanta, GA 30319 Clyde H. Gordon, Sr. Consultant (404) 261-2050

Consultants, energy conservation and management; industrial operation and maintenance; evaluation and field testing of products, methods and equipment relating to institutional sanitation.

216. SHAKER RESEARCH CORP.
Northway 10 Executive Park
Ballston Lake, NY 12019
John M. McGrew, Pres. (518) 877-8581

2, 6, 21, 26, 27, 40, 44, 45, 47, 51, 70 112, 115

Structure and airborne vibration data processing; machinery and structural dynamics; high performance bearing design and analysis; lubrication; seal design and analysis; acoustic and mechanical vibration analysis; machinery design reviews; machinery failure protection.

216A. ALBERT SHAPERO Ohio State University Columbus, OH 43210 14, 37, 39, 78, 102

As of May 1978, William H. Davis Professor of American Free Enterprise System, Ohio State University, Columbus, Ohio. Formerly, Professor of Management at the University of Texas at Austin, Austin, Texas since December 1966 and a member of the Graduate Faculty of the School of Library and Information Science. He has been Chairman of the University of Texas' Department of Management, visiting faculty member of the International Institute for the Management of Technology in Milano, Italy (IIMT), and Director of the Technology Management Division at Stanford Research Institute. At Stanford, he was principal investigator and project leader or participant in a large number of research projects. As Director of Technology Management Programs, he developed and headed a multidisciplinary research organization that was concerned with the application of systems approaches to the solution of complex problems.

217. SHEPARD LABORATORIES
19 Morris Court
Summit, NJ 07901
F. H. Shepard, Jr., Consulting Engineer
(201) 273-5255

20, 21, 26, 28, 32, 40, 44, 46, 68, 69, 101, 108

Electronic-Electro-Mechanical Systems developed; computer peripherals; instrumentation & control; prototype construction.

218. RALPH L. SHERMAN
1019 Coronado, #25
Imperial Beach, CA 92032
(714) 429-7966
d/b/a J. M. Richards Laboratory
15133 Kercheval Avenue
Grosse Point Park, MI 48230

12, 17, 80, 81, 93

Biophysics. Biochemistry. Bioengineering. In abstracto modeling of hormonal, biochemical and bioelectrical factors associated with nonperiodic oscillations of CNS excitability; they serve as a foundation for continuing research in quantifying brain function in health/desease. Mathematical analysis of longitudinal EEG studies in clinical patients.

219. SHRADER ANALYTICAL LABORATORIES 9, 17, 18, 55, 92, 95, 110 3450 Lovett Avenue Detroit, MI 48210 Dr. Stephen Shrader, Pres. (313) 894-4440

Analytical chemistry consultants. Specializing in identification of unknown materials—pollutants, drugs, contaminents in industrial products; experts in mass spectrometry and gas chromatography.

220. SIERRACIN CORPORATION 12780 San Fernando Road Sylmar, CA 91342 B. P. Levin (213) 367-6184

5, 17, 44, 45, 48, 93, 94

Applied research directed toward heatable, anti-reflective coatings applied directly on plastic or glass substrates usable in heatable transparencies. Additional efforts fall into the areas of solar energy research, life cycle testing, environmental testing and flight environment simulation.

221. SIGNATRON, INC.
12 Hartwell Avenue
Lexington, MA 02173
Dr. Julian J. Bussgang, Pres.
(617) 861-1500

20, 23, 40, 80

Consulting, research, development and system studies in electronic communications, radar, signal transmission and reception, mathematical modeling, performance test and evaluation, special purpose electronic instrumentation, digital interfaces, expert review and testimony.

222. ANATOLE J. SIPIN CO., INC. 425 Park Avenue South
New York, NY 10016
Anatole J. Sipin, President
(212) 689-2550

2, 26, 40, 47, 48, 49, 66, 70, 95

Instruments to monitor organic solvents, vinyl chloride, and other toxic gases and vapors, personal pumps, charcoal and other sorbent tubes, gas collection bags, and direct reading colorimetric dosimeter tubes. R&D on medical devices, energy conversion devices, non-destructive testing, ultrasonics.

223. C. BRANSON SMITH
Planning & Analysis
U.S. DEPARTMENT OF ENERGY
20 Massachusetts Ave., N.W.
Washington, DC 20545

60

224. SOL ENERGY CORPORATION
761 Rohde
Hillside, IL 60162
Joseph Kelly, Pres. (312) II 7-5912

45

Solar energy research & development. Facility at Rutland, Illinois to use solar energy to manufacture photovoltaic cells and a general education facility open to the public.

225. SOLAR INVESTORS ASSOCIATES
325 Prospect Avenue
Mamaroneck, NY 10523
A. W. Adler, President (212) 952-9400

45, 103, 117

Management and financial consulting. Venture capital with emphasis on alternative energy firms.

226. SOUTHWESTERN LABORATORIES
222 Cavalcade Blvd.
P.O. Box 8768
Houston, TX 77009
Joe W. Jeanes, P.E., President
(713) 692-9151

9, 15, 17, 19, 24, 43, 48, 51, 54, 55, 59, 79, 82, 95, 99, 103, 106, 110, 112, 113

Materials, Environmental, and Geotechnical Consultation and Contract Research; Fundamental Testing and Analytical Services.

227. SPACE VECTOR CORPORATION
19631 Prairie Street
Northridge, CA 91324
Richard O. Rasmussen, President
(213) 886-6500

5, 6, 28, 32, 44, 63, 70, 103, 116, 118

Research rocket systems including analysis, structures, recovery, flight control, attitude control and separation systems. Exoatmospheric attitude control for spinning and non-spinning payloads. Gyro and gyroscopic platforms. Pneumatic actuators. Pulse irrigation systems for agriculture.

228. SPECTRA RESEARCH SYSTEMS
2212 DuPont Drive
Irvine, CA 92664
M. S. Sandhu, Pres. (714) 833-9088

6, 20, 32, 42, 44, 45, 47, 68, 70, 80, 86, 90, 93, 100, 101, 102

Independently owned high technology R&D organization with expertise in information processing, remote sensing, advanced sensors and processors, phenomenology studies, field measurements planning and data acquisition, processing and analysis. Primary areas of business include advanced systems studies, system synthesis, field measurements and image processing.

229. SPECTRIX CORPORATION
7408 Famin
Houston, TX 77054
Dr. Harris A. Lichtenstein, President
(713) 790-1800

9, 12, 17, 21, 55, 70, 99, 106, 110

Multidisciplinary consulting firm of scientists and technologists founded in Houston in 1969. Laboratory operations were established in 1972 and focused upon chemical analyses for research and services in geochemical, environmental, biomedical, petroleum and petrochemical applications. In particular, provides analytical services for trace organic and inorganic compounds in water, air and body fluids. Product quality control for manufacturers and hydrocarbon characterizations for geochemical exploration also highlight some of their services. Research efforts include the development of methods for the analysis of toxic chemicals in drinking water. Spectrix is one of the few commercial laboratories in the country possessing a computerized gas chromatograph-mass spectrometer, the most powerful analytical instrument for the analysis of complex organic compounds. This instrument is capable of the combined tasks of first separating and then identifying components in a complex mixture.

230. SPECTRO-SYSTEMS, INC. 9, 17, 41, 45, 47, 50, 55, 8000 Forbes Place 90, 93, 101, 105, 106, 114 Springfield, VA 22151 Dr. Joseph V. Gaven, Jr., Pres. & Technical Director (703) 321-9240

Electro-Optics; Photochemistry; Liquid Crystals; Remote Sensing; Geothermal Energy; Energy-related R&D.

231. SPRINGBORN LABORATORIES, INC. (formerly DeBell & Richardson, Inc.) (formerly DeBell & Richardson, Inc.) (formerly DeBell & Richardson, Inc.) (23, 24, 34, 35, 36, 47, 50, 55, 78, 79, 81, 84, 94, 97, 103, 110, 111, 113, 117, 119 Dr. Robert C. Springborn, Chairman & Pres. (203) 749-8371, Ext. 217

Research, development and engineering, market studies in plastics, chemical, and related fields; physical, analytical and biological testing.

232. STANDARD LABORATORIES, INC. 3322 Pennsylvania Avenue Charleston, WV 25302 Dick Kelly, Technical Director (304) 343-5173 9, 17, 19, 23, 49, 99, 113

Provides expert water and coal testing capabilities as well as innovative coal testing capabilities. Complete coal testing services include: sampling, proximate analysis, ultimate analysis of coal and coal ash, fluidity studies, and washability and/or preparation plant performance studies.

233. STANFORD RESEARCH INSTITUTE 1611 N. Kent Street Arlington, VA 22209 Dr. William D. Theriault (703) 524-2053, Ext. 366

(No expertise submitted at time of printing)

234. STEWART-TODD ASSOCIATES, INC.
No. 10 Valley Forge Executive Mall
530 E. Swedesford Rd., Suite #344
Wayne, PA 19087
Dr. W. Wayne Stewart, Pres. (215) 687-2030

Dr. W. Wayne Stewart, Pres. (215) 687-2030

Plan, develop and implement environmental health programs, nationally and

12, 65, 66, 81, 96

internationally, including occupational medical programs; industrial hygiene surveys by certified Industrial Hygienists; toxicological test design, monitoring and interpretation. Biological and environmental health research, product safety and product liability. Expertise in training of occupational physicians, industrial hygienists and monitoring staff; augment client professional capabilities as needed.

235. T. E. STIVERS ASSOCIATES
P. O. Box 608
Decatur, GA 30031
T. E. Stivers, Pres. (404) 378-1392

47, 49, 60A

Basically R&D for mechanical processing of agricultural and food products and by-products.

236. STRUCTURE PROBE, INC.
535 E. Gay Street
P.O. Box 342
West Chester, PA 19380
Dr Charles A. Garber, President
(215) 436-5400

3, 4, 9, 12, 16, 17, 24, 33, 43, 82, 94, 96, 106, 115

Analytical and consulting laboratory equipped with some of the most advanced electron optical equipment available for materials analysis—including a combination Auger/ESCA/Scanning Auger Microprobe system for Surface Analysis plus electron microscopy (scanning and transmission), x-ray diffraction, and many other peripheral capabilities for complete materials research. Applications in failure and contamination analyses, on-line production problems, quality control, patent support, product liability in areas such as ceramics, metals, microelectronics, foods, fibers, cosmetics, air and water pollution.

237. SUGHRUE, ROTHWELL, MION,
ZINN & MACPEAK
1776 K Street, N.W.
Washington, DC 20006
G. Franklin Rothwell (202) 293-7060

Law: Patents and Procurement.

75

238. TACHISTO, INCORPORATED
13 Highland Circle
Needham Heights, MA 02194
Gabrielle Kovarna Raff
Vice President/Marketing & Sales
(617) 444-9360

44, 74

Design and manufacture TACII CO2 TEA and pulsed rare gas-halogen eximer lasers; custom high voltage Marx generators; pulsed high voltage power supplies for flashlamps and lasers; capacitor bank installations; trigger generators; high voltage spark gap switches; voltage dividers; current viewing resistors.

239. TALLEY INDUSTRIES, INC.
3500 N. Greenfield Road
P.O. Box 849
Mesa, AZ 85201
R. A. Rockow, President
Government & Technical Products Group
(602) 832-3830, Ext. 201

1, 6, 9, 12, 17, 24, 25, 26, 27, 32, 40, 45, 47, 58, 61, 64, 65, 66, 68, 70, 78, 79, 80, 94, 95, 96, 98, 103, 107, 108, 111, 112, 113, 114

(No further expertise received at time of printing)

240. TECH DEVELOPMENT, INC.
2601 Timber Lane
P.O. Box 1400-0
Dayton, OH 45414
Robert G. Graham, Mgr. of Marketing
(513) 275-7426

5, 6, 7, 45, 46, 47, 76, 123

Concerned with the research, design, development and fabrication of precision aerodynamic and fluid dynamics derived apparatus for aerospace, nuclear, medical and commercial aviation applications, including: design and fabrication of aircraft models for wind tunnel testing; compressed gas powered, tip-turbine driven, ducted axial flow fans for V/STOL aircraft scale model testing; propulsion simulation devices for aircraft model testing; inflation devices; sub-scale propellers; fluid pumps, turbomachinery; steam and air driven turbine and vane-type motors.

241. TECHMEDIA CORPORATION
(formerly Proposal Management, Inc.)
121 North Orianna Street
Philadelphia, PA 19106
Charles A. Mirenda, Director of Marketing
(215) 574-0308

22, 27, 38, 45, 64, 71, 108

Proposal writing and management. WBS, LCC/DTUPC, C/SCS, systems engineering, management systems. Configuration management. Documentation. Editing and composition. Technical art. Printing.

242. TECHNI RESEARCH ASSOCIATES, INC.
Professional Center Building
37 Easton Road
Willow Grove, PA 19090
Dr. Louis F. Schiffman, President
(215) 657-1753

17, 23, 29, 45, 109

Technology transfer. Research planning and management. Licensing. Acquisitions. Product development.

243. TECHNOLOGICAL INNOVATORS CO. 21,441 Highvale Trail Topanga, CA 90290 Robert L. Woodbury, Chief Scientist

(213) 455-1721

15, 27, 34, 45, 48, 54, 64, 103, 107, 123

Performs research, development and consulting in the field of Appropriate Technology (technologies that are ecologically and sociologically compatible), and require no petrochemical fuels, pesticides or non-renewable resources to make economic development possible.

244. TECHNOLOGY CLEARING HOUSE, INC. 68 1105 Market Street—Suite 801 Wilmington, DE 19801 Ernest Breton, Pres. (302) 658-7831

Publishers of New Technology Index. Will index clients technology by function to permit retrieval of information on new technology on the basis of the needs that it satisfies.

245. TELEDYNE ENERGY SYSTEMS 41, 45, 53, 73
110 West Timonium Road
Timonium, MD 21093
William C. Kincaide (301) 252-8220, Ext. 278

Engaged in the research and development and manufacture of electrochemical and thermoelectrical energy conversion devices, including water electrolysis systems, fuel cell systems, space power systems, and related equipment.

R&D activities center around systems engineering, reliability and maintainability, and systems acquisition management. A wide variety of engineering, technical and management skills are represented on its staff. Company has no hardware products.

247. THERMOTRON CORPORATION
Kollen Park Drive
Holland, MI 49423
John J. Sexton, Pres. (616) 392-1491

14, 40

Business Administration. Electrical Engineering.

248. TRANS-TECH, INC.
12 Meem Avenue
P.O. Box 457
Gaithersburg, MD 20760
A. C. Blankenship, VP/Engineering
(301) 948-3800, Ext. 73

9, 10, 16, 17, 20, 24, 40, 42, 43, 44, 79, 82, 93, 94, 99, 100, 111, 113

Producers of Microwave Materials; Ferrites, Garnets, Ceramic Dielectrics; Custom Research and Development Facilities; Diamond Wheel Machine Shop.

249. TRANS-TECH, INC.
12 Meem Avenue
P.O. Box 457
Gaithersburg, MD 20760
R. G. West, Sr. Staff Engineer
(301) 948-3800

9, 10, 16, 17, 20, 24, 40 42, 43, 44, 79, 82, 93, 94, 99, 100, 111, 113

Producers of Microwave Materials; Ferrites, Garnets, Ceramic Dielectrics; Custom Research and Development Facilities; Diamond Wheel Machine Shop.

58

250. TRANTECH CORPORATION

P. O. Box 310

Newton, MA 02160

Martin Himmelfarb (617) 964-0699

Publishers. Technology Transfer.

251. TREADWELL CORPORATION 41, 45, 47, 48, 119

97, 109

1700 Broadway New York, NY 10019 J. A. Johnson, Sr. Vice President (212) 262-3120

Integrated engineering-construction firm with expertise in the ferrous and non-ferrous metals industries. Also has unique qualifications in electrochemistry and is the only producer of electrolytic oxygen equipment for nuclear submarines.

252. TREADWELL CORPORATION 41, 45, 47, 48, 119

1700 Broadway New York, NY 10019 John M. Schreiner (212) 262-3120

Integrated engineering-construction firm with expertise in the ferrous and non-ferrous metals industries. Also has unique qualifications in electro-chemistry and is the only producer of electrolytic oxygen equipment for nuclear submarines.

UNIFIED INDUSTRIES, INC. 205 S. Whiting St. ——Suite 201 253. Alexandria, VA 22304

25, 48, 99, 107, 108, 112, 118

Walter L. Ambrose, Procurement Mgr. (703) 751-2200, Ext. 69 or 79

A minority-owned, small business corporation furnishing competent and reliable systems engineering and technical support services to government and industry. Structured with no proprietary interest in hardware, providing an environment for objectivity through an unbiased approach. Application of specialized disciplines in the electrical, electronic and mechanical fields provides for support services in a wide range of technologies.

254. UTILITY RESEARCH CO. 3, 17, 24, 94

98 Greenwood Avenue P.O. Box 107 Montclair, NJ 07042 Harry S. Katz (201) 744-8259

> Consulting and R&D on plastic materials, advanced composites, adhesives, elastomers; formulation, prototype and shortrun molding and production liaison.

VAN ALLYN, INC. 310 East 44th Street 255.New York, NY 10017 Wayne P. LeVan, Pres. (212) 986-0550 45, 72A, 122

Franchisor of inventions, U.S. and foreign, involving the use of vehicular traffic to generate electricity without the use of energy fuel using only the weight of vehicles.

256. VENCON MANAGEMENT, INC. 730 Fifth Avenue--Room 918 New York, NY 10019 Irvin Barash, Pres. (212) 581-8787 14, 23, 37, 53, 60, 64, 78, 92, 94, 117

Evaluates entrepreneurs, technology, markets, businesses, and arranges for equity and debt capital. Analyzes plant site locations and identifies and studies acquisition candidates.

257. VERSAR, INC.
6621 Electronic Drive
P.O. Box 1549
Springfield, VA 22151
Dr. Michael Markels, Jr., Pres.
(703) 354-3350

9, 13, 15, 17, 19, 23, 24, 25, 26, 30, 36, 37, 42, 47, 48, 55, 59, 66, 70, 74, 79, 80, 82, 84, 89, 90, 93, 95, 106, 110, 112, 113, 119

High technology firm dealing in studies relating to environmental quality, resource recovery, energy research, materials research, applied physics, and life sciences.

VERTREX CORPORATION
808 - 106th Ave., N.E.
Bellevue, WA 98004
Albert H. Rooks, Pres. (206) 455-4718

27, 28, 44, 45

Manufactures an electronic control device whose purpose is to reduce energy and cost consumption in building HVAC systems.

259. VETERINARY RESOURCES AMERICAS 12930 North A1A Vero Beach, FL 32960 Dr. M. L. Simmons, Pres. 8, 12, 13, 27, 32, 36, 45, 47, 48, 49, 51, 81, 84, 89, 94, 103, 119, 123

Consulting firm specializing in biomedical aspects of energy conservation and experimental animal facility design and program management. Veterinarians, designers, and engineers working together.

260. VIRGINIA ENERGY OFFICE 823 E. Main St.—Room 300 Richmond, VA 23219 Louis R. Lawson, Jr., Director (804) 786-8451

19, 45, 56, 103

Created by Governor Mills E. Godwin, Jr. in 1974 to serve as a focal point for energy related information, programs and planning for the State. RESPONSIBLE FOR: Keeping the Secretary of Commerce and Resources informed on energy developments and measures to minimize energy shortages in Virginia; Coordinating the flow of information between the various agencies of State government and working with the Federal and local governments and the private sector in implementing energy associated projects; Coordinating the development of energy plans and their strategies for implementation; Conducting action-oriented studies of alternative energy projects and programs; Developing and coordinating energy conservation programs for industry, commerce and private citizens; Cooperating with specific requests for the development of energy information, studies, projects, programs, or surveys; Maintaining continuous liaison with energy suppliers and distributors, agencies of other States and Federal agencies concerned with energy matters; Working closely with volunteer groups; and, Providing energy information to the public through the Virginia Energy Information and Conservation Center.

261. WVS ENGINEERS
12248 Spring Trail
Lakeview Terrace, CA 91342
William V. Susel, Pres. (213) 344-9936

19, 28, 34, 40, 45, 47, 56, 58, 70, 88, 92, 95, 103, 108, 114

Engineering management.

262. WESTERN SCIENTIFIC SERVICES
328 Airpark Drive
P.O. Box 1965
Ft. Collins, CO 80522
James F. Hedrick, VP (303) 482-3364

70, 83, 108, 123

Weather science, remote sensing, meteorological and environmental data monitoring system interfaced to satellite.

263. WESTWOOD RESEARCH LABORATORY
543 High Street
Westwood, MA 02090
John Cornell (617) 326-3965

9, 12, 23, 24, 33, 78, 81, 94, 110, 113

Independent dental research lab servicing clients in oral hygiene, chemical, drug and food industry. Specializes in developing models for dental disease, devise testing conditions which parallel those occurring in the mouth. Sets up screening programs which increase the chances for successful clinical investigation. Dental materials research, development and testing including specification testing. Specializing in polymeric materials.

264. WHEELER INDUSTRIES, INC. 1129 - 20th St., N.W.—Suite 403 Washington, DC 20036 E. Joseph Wheeler, Jr., Pres. (202) 659-1867. 2, 12, 13, 22, 23, 25, 27, 63, 77, 87, 89, 91, 95, 103, 108, 109, 110, 112, 119

Involved in advance research and development planning in support of naval ship systems, underwater systems, and energy and environmental protection systems. Specializes in oceanographic and environmental research, as well as systems engineering for ship, air, electronic, mariculture and deep ocean systems.

265. WILFORD AIRCRAFT CORP.
300 Linden Lane
Merion Station, PA 19066
E. Burke Wilford (215) 664-1220

5, 6, 77

Aero architecture. Marine engineering.

267. GLEN W. WILTROUT (Consultant) 2028 N. Vermont Street Arlington, VA 22207 (703) 528-9166 14, 27, 39, 60, 69

Government contract administration. Administrative management. Energy conservation education. Represents technical innovators (mechanical).

268. WIND-DE-GO, INC. 1940 W. Cheryl Phoenix, AZ 85021 E. K. Hillman, Pres. (602) 943-0439

28, 44, 45, 72A, 78, 81, 103, 123

Performs first stage R&D on inventions for cost analysis. Develop control systems for hybrid solar/wind configurations. Co-develop product research on pain relief. Formulate marketing policy. Inventor.

269. WIND ENERGY RESOURCE DEVELOPMENT
P. O. Box 324
Bennett, CO 80102
Leslie J. Mathis, Pres. (303) 644-3710

4, 5, 16, 29, 30, 42, 44, 69, 78, 90, 94, 101, 103, 108, 117, 123

Engages in the design of wind energy systems and subsystems.

270. WOLCHUK AND MAYRBAURL
432 Park Avenue South
New York, NY 10016
Roman Wolchuk (212) 689-0220

47, 107

CONSULTANTS. Civil Engineering. Steel plate structures. Service platforms. Hoists. Stationary offshore oil drilling platforms. Transmission towers. Transformer foundations. Underground transformer vaults.

271. DONALD WORTH 336 Beacon St., Apt. 5 Boston, MA 02176

60

Employed by Massachusetts Department of Commerce & Development. Presently working for a State Task Force on economic development in Massachusetts of high technology companies.

272. DR. STANLEY W. ZEHR 1760 Lomitas Avenue Livermore, CA 94550 (415) 443-2541

79, 103, 108

Materials Science—interested particularly in high efficiency solar cell development and device fabrication as well as overall systems design and analysis.