WASTE GAS COGENERATION SYSTEMS

1. Dr. Jim Fisher, University of Missouri Agricultural Engineering Dept., Columbia, Missouri, 1981
   16 kW, 3 phase, 230 V, 1200 rpm, Wauk 220, hog manure digester gas

2. Dave Pueschel, Fairgrove Farms, Sturgis, Michigan, 1981
   85 kW, 3 phase, 460 V, 1800 rpm, Cat 3306, 575 head cow manure digester gas

3. Ralph Grossi, Marindale Dairy, Novato, California, 1981
   40 kW, 3 phase, 240 V, 1800 rpm Wauk 330, 350 head cow manure digester gas

4. John Greig, Esterville, Iowa, 1981
   40 kW, 3 phase, 240 V, 1800 rpm, Wauk 330, 1000 head beef manure digester gas

5. Duane Lindstrom, Welch, Minnesota, 1982
   16 kW, 1 phase, 230 V, 1800 rpm, Wauk 155, 100 head cow manure digester gas

6. Spencer Bennett, Hadley and Bennett Inc, Henniker, New Hampshire, 1982
   13 kW, 3 phase, 240 V, 1200 rpm, Wauk 155, 45 head cow manure digester gas

7. Leo Langerwerf, Durham, California, 1982
   85 kW, 3 phase, 240 V, 1800 rpm, Cat 3306, 500 head cow manure digester gas

8. U.S. Naval Academy, Gambrills, Maryland, 1982
   27 kW, 3 phase, 230 V, 1800 rpm, Wauk 220, 200 head cow manure digester gas

9. Roy Sharp, Royal Farms, Tulare, California, 1982
   75 kW, 3 phase, 208 V, 1200 rpm, Wauk 817, 10,000 head swine manure lagoon gas

10. City of Newton, Kansas, 1982
    40 kW, 3 phase, 240 V, 1800 rpm, Wauk 330, sewage treatment plant gas

11. Jack Curtin, Curtin Bros. Farm, Oneida, New York, 1982
    75 kW, 3 phase, 208 V, 1200 rpm, Wauk 817, 550 head cow manure digester gas

12. Brattleboro Landfill Gas Corp, Brattleboro, Vermont, 1982
    340 kW, 3 phase, 460 V, 1800 rpm, 4 Cat 3306s, Landfill gas

13. Ron Space, Millbrook Farm, McLean, New York, 1982
    27 kW, 1 phase, 240 V, 1200 rpm, Wauk 330, 220 head cow manure digester gas

14. Maryland-National Capital Parks and Planning Commission, Riverdale, Maryland
    17 kW, 3 phase, 480 V, 1800 rpm, Wauk 155, Colmar Landfill gas

15. Rick Roy, Jiffy Industries, Dade City, Florida, December 1982
    27 kW, 3 phase, 208 V, 1800 rpm, Wauk 220, private sewage digester gas

16. Rick Roy, Jiffy Industries, Brookville, Florida, 1982
    27 kW, 3 phase, 208 V, 1800 rpm, Wauk 220, private sewage digester gas

17. Rick Roy, Jiffy Industries, Pompano Beach, Florida, 1982
    27 kW, 3 phase, 208 V, 1800 rpm, Wauk 220, private sewage digester gas

18. Dr. Dennis Schulte, University of Nebraska Energy Farm, Mead, Nebraska, 1983
    13 kW, 3 phase, 208 V, 1200 rpm, Wauk 155, hog manure digester gas

19. Canton Technical College, Canton, New York, 1983
    13 kW, 1 phase, 240 V, 1200 rpm, Wauk 155, 100 head cow manure digester gas

20. City of Charlottetown, Prince Edward Island, Canada, 1983
    40 kW, 3 phase, 600 V, 1800 rpm, Wauk 330, city sewage treatment plant gas

21. Cliff Frey, Turkey Hill Dairy, Conestoga, Pennsylvania, 1983
    105 kW, 3 phase, 480 V, 1200 rpm, Wauk 1197, 700 head cow manure digester gas

22. Dr. Stan Weeks, Agway Reseach Center, Tully, New York, 1983
    17 kW, 3 phase, 208 V, 1800 rpm, Wauk 155, 100 head cow manure digester gas

23. Marina Landfill Gas Corporation, Monterey Bay, California, 1983
    1200 kW, 3 phase, 4160 V, 1200 rpm, Wauk G7042, landfill gas

24. University of Maine, Orrington, Maine, 1983
    23 kW, 3 phase, 208 V, 1200 rpm, Ford 300, 200 head cow manure digester gas

25. Jack Mathis Dairy, Social Circle, Georgis, 1983
    57 kW, 3 phase, 480 V, 900 rpm, Waukesha 817, 500 head cow manure digester gas

26. Grant Amen Dairy, Redding, California, 1983
    65 kW, 3 phase, 208 V, 1200 rpm, Minne MO THD 504, 500 head cow manure digester gas

27. University of Maine, Orrington, Maine, 1983
    23 kW, 3 phase, 208 V, 1200 rpm, Ford 300, 200 head cow manure digester gas

28. Waltek Inc., Anoka, Minnesota, 1983
    210 kW, 3 phase, 480 V, 1200 rpm, Minn-Mo THD 800, landfill gas

29. Don Clarke, Shugan-Vale Farm, Inc., Claremont, New Hamshire, 1983
    85 kW, 3 phase, 240 V, 1800 rpm, Caterpillar 3306, 600 head cow manure digester gas

30. Center for Environmental Energy Research, (CEER) Mayaguez, Puerto Rico, 1983
    40 kW, 3 phase, 240 V, 1200 rpm, Caterpillar 3304, 400 head cow manure digester gas

31. Pinole Wastewater Treatment Plant, Pinole, California, 1983
    47 kW, 3 phase, 480 V, 1200 rpm, Minn-Mo 504, sewage gas

32. Natural Power, Inc., Raleigh, North Carolina, 1984
    Gas Handling Unit on landfill gas for cogeneration unit

33. Bob Hamilton, Iowa Falls , Iowa, 1984
    150 kW, 3 phase, 1800 rpm Minn-Mo and Gas Handling Unit on agricultural digester gas

34. M and M Hog, Animans, New Mexico, 1984
    Gas Handling Unit 45 to monitor gas production of covered lagoon

35. M and M Dairy, Gonzales, California, 1984
    60 kW, 3 phase, 460 Ford at 1800 rpm, on dairy manure digester gas

36. County of Santa Cruz, Santa Cruz, California, 1984
    Three 150 kW, 3 phase, 480 V, 1800 rpm turbocharged on landfill gas

37. J and T Properties, Wilcox, Arizona, 1984
    55 kW, 3 phase, 1800 rpm Cat, on covered hog lagoon gas

38. Bridgeport WWTP, Bridgeport, Michigan, 1984
12 kW, 3 phase, 1200 rpm Wauk and Gas Handling Unit on sewage digester gas

39. John Yerman, Burson, California, 1984
105 kW, 3 phase, 1200 rpm turbocharged Minn MO, on chicken manure digester gas

40. Methane Development Corporation, Babylon, New York, 1984
450 kW, 3 phase, 1800 rpm turbocharged and Gas Handling Unit on landfill gas

41. Cleveland Brothers, East Pennsboro, Pennsylvania, 1984
Two 150 kW, 3 phase turbocharged Cats and Gas Handling Units on landfill gas

42. Sault St. Marie WWTP, Sault St. Marie, Michigan, 1984
Engine driven blower for aerobic waste treatment, on sewage digester gas

43. Benicia WWTP, Benicia, California, 1984
75 kW. 3 phase, 480 V, 1200 rpm Wauk and Gas Handling Unit on sewage digester gas

44. Cairo WWTP, Cairo, Egypt, 1984
15 kW, 3 phase, 1500 rpm Wauk and Gas Handling Unit on sewage digester gas

45. Rochester WWTP, Rochester Michigan, 1985
50 kW, 3 phase, 480 V, Cummins and Gas Handling Unit on sewage digester gas

46. NAPA Sanitation District, Napa, California, 1985
105 kW, 3 phase, 480 V Wauk 1197 and Gas Handling Unit on sewage digester gas

47. D.J. Acres, Lancaster, Pennsylvania, 1985
135 kW, 3 phase, 208 V, 1800 rpm, turbocharged Cat 3306 and Gas Handling Unit on hog manure digester gas

48. Wexford Capital, San Diego, California, 1985
240 kW, 3 phase, 480 V, Wauk 2476, 1200 rpm system in a total enclosed package with 80 ton absorption chiller and cooling tower on landfill gas

49. Gentec, San Diego, California, 1986
115 kW, 3 phase, 480 V, 1200 rpm, Wauk 1197, in customer designed co-generation system on landfill gas

50. Tecumseh WWTP, Tecumseh, Michigan, 1986
13 kW, 3 phase, 480 V, 1200 rpm, Wauk 155 and Gas Handling Unit on sewage digester gas

51. Lansing WWTP, Lansing, Michigan, 1986
Two 340 kW, 3 phase, 480 V, 1200 rpm, Wauk 3521, and Gas Handlin Unit on sewage digester gas

52. Durbin Creek WWTP, Durbin Creek, North Carolina, 1987
105 kW, 3 phase, 480 V, 1200 rpm Wauk and Gas Handling Unit on sewage digester gas

53. Saginaw WWTP, Saginaw, Michigan, 1987
30 kW, 3 phase, 480 V, Ford industrial, and Gas Handling Unit on sewage gas

54. Pacifica WWTP, Pacificia, California, 1987
Highly sophisticated 75 kW, 480 V, 3 phase, Ford industrial, with Gas Handling Unit on blend of natural and digester gas

55. Sonoco Paper Products, Hartville, South Carolina, 1987
Gas Handling Unit to hold a vacuum on world's largest anaerobic lagoon floating cover

56. Orem WWTP, Orem, Utah, 1987
    150 kW, 480 V, 3 phase, Waukesha 1905, with Gas Handling Unit on blend of digester gas and natural gas

57. City of Norman, WWTP, Norman, Oklahoma
    450 kW, 480 V, Wauk 5108, on blend of digester and natural gas

58. Burlingame Waste Water Treatment Plant, Burlingame, California, 1990
    95 kW, 480 V, Wauk F1197, on blend of digester and natural gas

59. REPCO of St. Louis, installed in Japan, 1993
    30 kW, 480 V, 3 phase, 300 Ford, on industrial process waste gas

60. Top Deck Farms (Roger Decker), Alliant Energy, Westgate, Iowa, 2001
    100kW, 480 V, 3 Phase, Waukesha 1197 w/ Gas Handling System for DG or LP. Included in-tank heat exchanger for concrete digester and heat recovery/delivery thermal loops which operate in series with Capstone MicroTurbine 30kW system (see below)

61. Top Deck Farms (Roger Decker), Alliant Energy, Westgate, Iowa, 2001
    heat recovery/delivery thermal loops which operate in series with Wauk 1197 system (see above)

62. Kaukauna, WI Waste Water Treatment Plant, 2002
    PEI Turbine Gas Handling System for Unison, Inc. supplied 30kW, 480 V, 3 Phase, Capstone MicroTurbine. Included PEI MicroTurbine exhaust gas heat exchanger

63. Sun Prairie, WI Waste Water Treatment Plant, 2002
    PEI Turbine Gas Handling System for Unison, Inc. supplied 30kW, 480 V, 3 Phase, Capstone MicroTurbine. Included PEI MicroTurbine exhaust gas heat exchanger

64. Noblehurst Farms, Inc. (Rob Noble), Dairy Farm, 2002
    130kW, 208 V, 3 Phase, Caterpillar 3406, w/GHS for DG, NG, or Blend
    System included in-tank heat exchangers for parallel flow, split tank concrete digester

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