William H. Freeman, PE – Chief Fueling Engineer

Currier & Company, Inc.

Education Bachelor of Science Mechanical Engineering (BSME)
University of Alabama, 1983

Professional Registrations and Certifications

Professional Engineer, registered in Florida (#40981) and New Jersey (#GE4186200)

Associations
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) - member
American Society of Mechanical Engineers (ASME) – member
CDM, Certified Demand-Side Manager
Association of Energy Engineers (AEE) – member
American Association of Airport Executives (AAAE) – member

Background

Mr. Freeman has years of aviation engineering experience, aviation fueling systems experience, and mechanical engineering. His expertise includes project management, engineering design, and construction supervision for various aviation project types including aircraft ground service systems. He has worked with aviation authorities, airlines, operators and the military on projects involving these systems. His aircraft fuel hydrant systems and bulk terminal fuel storage facilities fueling design experience includes hydraulic pumping calculations, system on-off loading and capacity calculations, overall fuel system development, equipment selection and life cycle cost analyses.

His project management skills include overseeing project controls, development of O&M Manuals, client and contractor coordination, scheduling and cost estimating.

Fuel Tank Farm Facilities

Aviation Fuel System Modernization - Infrastructure Renewal Program, The Port Authority of New York & New Jersey, Newark Liberty International Airport, Newark, NJ (2015-2016)
Project Engineer involved with fuel piping layouts and pipe stress analysis. The project included the modernization of the existing aviation fueling infrastructure throughout the airport, from fuel farm to hydrant fueling systems.

Satellite Fuel Farm Manifold Modifications, Allied Aviation, John F. Kennedy International Airport, Jamaica, NY (2014-2015)
Conducted an evaluation and developed alternate schemes for the interconnection of the four individual fuel piping suction manifolds associated with the Satellite Fuel Farm located at the Airport to allow the flexibility to supply fuel from any of the 40 fuel storage tanks to any of the 26 hydrant fueling pumps.

Aboveground Storage Tank Design, City of Dallas Public Works Department, Dallas Love Field, Dallas, TX (2015-2016)

Provided engineering and design services for a new aboveground fuel storage tank and piping system to serve the Love Field Maintenance Division's fleet vehicles and snow removal vehicles at Dallas Love Field. The design included one 3,000 gallon aboveground fuel storage tank, fuel piping and dispensers, leak detection and inventory control and measurement.

New Fuel Farm Depot, RECOPE, Juan Santamaria International Airport, San Jose, Costa Rica (2011)
On-Site Engineer provided fueling systems construction oversight for the construction of a new fuel depot consisting of a 20,000 barrel Jet A-1 storage (four tanks) and dispensing facility; a new hydrant fueling system; an extension of the existing hydrant fuel system from the new fuel depot; and new administration and maintenance buildings. Additionally, Avgas and diesel fuel offloading, storage and dispensing facilities are included. The project also included modifications to an existing pump station at a remote tank farm supplying fuel to the new Jet A-1 storage and dispensing facility via pipeline plus the modification of this existing pipeline.

New Aviation Operating Fuel Farm (Design/Build), RECOPE, Daniel Oduber International Airport, Liberia, Costa Rica (2012)
Project Engineer for the design required for a new aviation operating fuel farm for RECOPE, the National Oil Company of Costa Rica. The new fuel farm incorporated state of the art technologies and equipment and was required to handle the tremendous increase in tourism flights heading to Costa Rica's Pacific coast. The designs included two 5,000 barrel aboveground API 650 jet fuel storage tanks including all appurtenances, three jet fuel truck offloading stations and two jet fuel truck loading stations; Avgas, diesel motor fuel and gasoline aboveground horizontal fuel storage tanks; truck offloading and truck loading facilities for Avgas, diesel and gasoline; pumping and filtration systems, metering systems, leak detection systems, product reclaim systems, tank containment dikes, offloading/loading area spill containment pavements, and refueler parking area.

New Rental Car Fuel Facilities, Tampa International Airport, Tampa, FL (2002)
Developed detailed design documents and performed construction inspection for development of automotive fuel piping distribution system serving the new rental car fuel facilities located in the newly constructed long term parking garage. Project also included retrofit modifications to the existing underground fuel tank farm.

Tampa International Airport, Tank Compliance and Renovations, Tampa, FL (2006)
Designed renovations and supervised installation to existing Bulk Storage Facility (83K bbl storage) facility remained operational. Project included tank and piping renovations to bring tanks into compliance for secondary containment, truck fillstand renovations and new oil water separator installation. The fuel farm has a pumping capacity of 1,100HP.

Orlando International Airport, Tank Compliance and Renovations, Orlando, FL (2006)
Designed renovations and supervised installation to the existing Bulk Storage Facility (217K bbl storage) including providing secondary tank bottoms, aboveground pipe installations, new sump separator installations, abandonment of existing underground piping and UST replacements. The fuel farm has a pumping capacity of 360HP.

Palm Beach International Airport Fuel Tank Farm #3 Improvements, Palm Beach, FL (2007)

Project Manager for the upgrade modifications to the existing fuel tanks #13 and #14. Each tank is 8,150 bbl for the storage of Jet-A. The project included the draining and isolating the tanks for radiograph weld inspection, removal of internal floating decks, installing new steel tank bottoms, coating the tanks, modifying existing floating suction and upgrading all gauges and instrumentation. The project also included upgrades to the existing fuel truck load and off-load stations.

Miami International Airport, Miami, FL (1998)
Performed design/build of a system-wide control and automation system for the airport's aircraft fueling facility. Project included total platform integration of pump controls, tank gauging, emergency fuel shut-off, load rack metering, and other tank farm systems. Operation and Maintenance manuals were developed for the project and operator training was provided. Responsible for the selection and procurement of all instrumentation.

T.F. Green Airport Fuel Tank Farm Improvements, Providence, RI (2009)
Project Manager for an upgrade modification to the existing fuel tank farm. The project included the removal and replacement of 2 aboveground horizontal 12,000 gallon Avgas and Mogas tanks and the installation of (1) new 50,000 horizontal Jet-A tank. Other project requirements included the design of new load/off-load facility, new oil-water separator and containment area and truck routing civil design.

St. Paul / Minneapolis International Airport, Minneapolis, MN (1999)
Member of the design team for the design/build of a system-wide control and automation system for the airport's aircraft fueling facility. Project included total platform integration of pump controls, tank gauging, emergency fuel shut-off, load rack metering, and other tank farm systems. Operation and Maintenance manuals were developed for the project and operator training was provided.

Phillips 66 Company Aviation Fuel Farm Facilities, Nationwide (1995)
On-call design and consulting services for a wide range of new aboveground horizontal tank fuel storage facilities, including both aviation Avgas and automotive fuel. Work to date has included projects in Florida, Ohio, Illinois, South Carolina, and Tennessee.

Vandenberg Airport, Hillsborough County, FL (1996)
Developed detailed design documents for a new fuel farm and distribution system for airport owned automotive vehicles and for small aircraft. Project included two aboveground horizontal storage tanks (one 25,000-gallon tank and one 4,000-gallon tank), each with its own piping distribution system including pumps, filters and dispensing equipment.

Naples Airport, Naples, FL (1988)
Developed detailed design documents for a new aboveground horizontal fuel farm and piping distribution system for automotive vehicles. Project also included design of a car wash facility and automotive repair garage.

Commercial Aviation Fueling Projects

Terminal 1, Gates A1 and A12 Modifications, San Francisco International Airport
San Francisco, California (2015-2016)
Fuel System Engineer of Record for "Enabling Project" – Aircraft hydrant fueling designs associated with the modifications to Gates A1 and A12. Both gates will serve ADG-VI. Designs include relocated aircraft hydrant fueling pits, valves and new piping installation in accordance with the Federal Aviation Administration and all applicable Federal and State Codes. Coordinated with the new PBBs and fixed-bridges, and pavements. Project was delivered under CMAR.

Terminal B, Boston-Logan International Airport, Boston, MA (2013-2014)
Fuel System Engineer of Record for an extension of the existing aircraft hydrant fueling loop and design of fuel hydrant pit locations for 8 new gates for the Terminal B extension. Two gates will serve ADG-VI aircraft, all other gates will serve ADG-IV aircraft. Designs included installation of new aircraft hydrant fueling pits, valves and new piping in accordance with the Federal Aviation Administration and all applicable Federal and State Codes. Coordinated with the new apron design layout, PBBs and fixed-bridges.

Logan International Airport, Boston, MA (1998-2000)
Design team member for the fuel storage terminal and fuel hydrant distribution system. Design included fuel hydrant system layout utilizing 14" diameter piping main loops and 6" hydrant laterals, coordination with airline gate operations, all pump controls for 400HP of pumps, tank gauging, emergency fuel shut-off, load rack metering, inbound metering, motor operated valve control, fiber optic communications, etc.

Fuel Hydrant Systems, Terminal A2, Continental Airlines, Newark Liberty International Airport, Newark, NJ (1997)
Developed detailed design documents and performed construction inspection for modifications to the 9-gate fuel hydrant system serving Terminal A2 for Continental Airlines. Designed hot taps into the existing 12" diameter pipe loop for new hydrant locations.

Orlando International Airport, Orlando, FL (1985)
Developed detailed design documents for the addition of six fuel hydrants plus relocation of nine existing fuel hydrant pits serving the 14" Airside B main piping loop. Design included rerouting and tie-in connections to the existing fuel piping system. Also, performed on-site full time inspection services during the installation of the system.

Palm Beach International Airport, Palm Beach, FL (1985)
Performed feasibility study plus developed preliminary and final design documents for the 24-gate fuel hydrant system, including tie-in to the existing 14" fuel pipeline.

Southwest Florida International Airport, Ft. Myers, FL (1998)
Performed detailed study to evaluate the existing 30,000 BBL fuel farm and existing fuel hydrant system. Alternatives were developed to provide a new fuel hydrant distribution system for the proposed 28-gate expansion. Alternative layouts were also developed for the expansion of the existing fuel farm and engineering cost estimates were developed for each alternative for budgetary purposes.

Federal Express SuperHub, Memphis International Airport-Phase 1, Memphis, TN (1984)

Developed detailed design documents for a new 18" diameter fuel hydrant system piping loop for approximately 30 gates, including tie-in to the existing fuel hydrant system. The design included the development of a computerized surge model of the proposed system because of the large fuel pumping volumes required for their 3-hour turnaround of the aircraft. The fuel hydrants were served by six 600 gpm pumps with a total of 600HP.

Federal Express SuperHub, Memphis International Airport-Phase 2, Memphis, TN (1985)
Developed detailed design documents for the expansion of the 18" diameter fuel hydrant system to more than 60 gates, including tie-in to the previously designed and installed fuel hydrant system.

Albuquerque International Airport, Albuquerque, NM (1986)
Developed detailed design plans and specifications for a newly proposed 18-gate fuel hydrant system. The project included a new 14" diameter piping loop that was served by 200HP of pumping capacity.

Luis Muñoz Marin International Airport, San Juan, Puerto Rico (1989)
Developed detailed design documents for the complete new fuel hydrant system to serve eight (8) gates in the International Terminal Building. The project involved the design of a new 12" piping main serving the 6" hydrant laterals.

Nassau International Airport, Bahamas (1988)
Developed detailed design documents, performed materials procurement services, and construction inspection services for the replacement and extension of 14" diameter fuel hydrant piping main and facilities (30 aircraft gates served by Esso Standard Oil, Texaco and Shell Oil Company). Also, performed detailed design, materials procurement, and construction inspection for consolidation of three existing fuel farms into a single facility. The project included upgrading and expanding the existing fuel storage (20,000bbl capacity) and pumping facilities for a new total pumping capacity of 500HP.

Reina Beatrix International Airport, Aruba (1990)
Performed a construction feasibility study, including preliminary design and cost estimates, for upgrading Esso Standard Oil's existing fuel farm and constructing a new 12-gate fuel hydrant system.

Las Americas Airport, Santo Domingo, Dominican Republic (1989)
Design, materials procurement and construction-phase services for a new fuel hydrant system owned and operated by Esso Standard Oil, Texaco, and Shell Oil Company. Project included the new fuel hydrant system as well as a new pumping station.

Bulk Storage Miscellaneous Liquids Projects

Buckeye L602 Crossover Project, Buckeye Partners, LP, John F. Kennedy International Airport, Jamaica, NY and Linden Terminal, Linden, NJ (2016)
Project Engineer responsible for the preparation of engineering design documents for piping/process system upgrades at Buckeye's Linden Terminal and JFK Airport facilities to make the necessary modifications to existing pipelines which will allow the delivery of Jet A fuel to the Airport.

Targa Baltimore Terminal Vapor Combustion Unit, Targa Resources, Baltimore Terminal, Baltimore, MD (2016)

Project Engineer responsible for providing concept design drawings for major equipment, process flow diagrams, and site drawings for the installation of a new Vapor Combustion Unit to capture emissions from tank fill operations for Targa's Vacuum Gas Oil product line. Work involved designing pipe routing for the new vapor recovery pipe, VGO piping and electrical service.

Commercial Airport Experience

ABQ, ATL, BOS, BTV, CRW, DFW, ERW, EYW, IAD, IAH, JFK, LIR, MCO, MDW, MEM, MIA, MKE, MPS, NAS, PBI, PHL, PVD, RSW, SDQ, SFO, SJO, SJU, TPA, VFD,