Technical Report

Higher Blends Infrastructure Incentive Program (HBIIP) Grant

ABC Convenience Stores

123 Ethanol Lane

Renewable Fuels, MN 55555

August 2022

Applicant

ABC Convenience Stores owns and operates the ABC Convenience Plaza (ABC) gas station located in Renewable Fuels Minnesota. ABC Convenience Stores is the applicant, operating as a Minnesota based corporation, formed in 1984. The gas stations operate under a BP franchise owned by Flopsy and Mopsy Bunny. The station services motorists traveling the Interstate 35 and 90 corridors. ABC serves an average of 16,000 motorists daily. ABC has ownership in three other LLC's, none of which operate in the transportation fueling industry.

Scope of Work

ABC is located at 112 S. 3rd Street, Renewable Fuels, Minnesota and is undertaking an expansion project that will increase the availability of higher blend fuels by adding 12 new fuel dispensers, adding one new underground storage tank (UST) for fuel, and extending the station's canopy. Current equipment has been reviewed through the Minnesota Department of Pollution Control and is compatible for equipment applicable to this program. New equipment will replace current equipment located under existing canopy.

Located at the intersection of I-XX and I-ZZ, ABC Convenience Plaza is one of the largest fueling stations in Minnesota. ABC currently sells an average of 3 million gallons of fuel annually. Other amenities at the site include a restaurant, several franchise food and beverage options including McDonald's, Pizza Hut Express, Taco Bell and Caribou Coffee, shower facilities, service center, semi-truck wash, CAT scale, gift shop, an RV dump station, and more.

The purpose of this project is to make available ethanol blended fuels such as E15/E85 and B20 or higher at ABC's existing station with an overall target to increase sales of ethanol blended fuels. The cost of this project is budgeted at $2,000,000 and the company is applying for a USDA Rural Development Higher Blends Infrastructure Incentive Program (HBIIP) grant in the amount of $750,000 to offset costs associated with the project.

ABC's existing location shown below

Boxes indicate location of underground storage tank and fuel dispensers being installed.

Project Description

ABC's proposed project consists of the installation of 12 flexible fuel dispensers and one underground storage tank (UST). ABC is planning to expand to offer E85, E30, E15, E10, Premium, and B20 at all fueling positions, making higher blends of E85, E15 and B20 available at every fueling position under the canopy. ABC currently has 12 fueling positions – four with B20 and all gas is E10 only. The company plans to add one UST for fuel, 12 new E85 / B20 rated dispensers, all new E100-rated piping, submersible pumps, POS systems and tank monitoring and control systems, sumps, concrete, and will be expanding its existing canopy.

Fuel Dispensers

ABC's project includes the installation of 12 Gilbarco Encore® 900 Series (E900) fuel dispensers. The E900 comes with options for blended and unblended fuels, allowing the addition of E15/E85 and/or B20. It offers up to six fuel grades with up to four hoses, providing a larger portfolio of fuel grades and reducing customer wait times, maximizing utilization at each island. This dispenser is E25 compatible with the option to upgrade to Flex Fuels.

The Gilbarco Encore® 900 Series fuel dispensers selected for ABC's project will enable the station to offer E85 so will be both Flex Fuel ready and E25 compatible and will also offer B20.

Equipped with HD Meter, the Gilbarco E900 required fewer calibrations which leads to less fuels given away due to meter drift. In addition to delivering EMV payment security, the E900 is one of the most physically secure dispensers currently on the market. Its hidden top hinge prevents removal of the bezel and a latch at the bottom requires technicians to secure the door, making it tough to pry the bezel open.

The E900 has a 15.6-inch touch screen made with chemically hardened glass to prevent vandalism and is scratch and abuse-proof, saving on unexpected costs and missed sales due to dispenser damage.

Underground Storage Tank

ABC's expansion project will also require the installation of an additional fiberglass underground storage tank (UST), with piping to connect it to the additional 12 fuel dispensers. ABC and the Project Manager worked with JF Petroleum to select a Xerxes Corporation (Xerxes) 20,000-gallon fiberglass underground petroleum storage tank.

Xerxes USTs are compatible with ethanol-blended fuels and biodiesel, accommodate continuous hydrostatic monitoring (unlike steel tanks), and come with an industry-leading 30-year limited warranty, which includes internal corrosion coverage "with or without water bottoms."

Fiberglass UST are installed by the 50 largest fuel marketers in the US. Fiberglass tanks are significantly lighter and easier to install and eliminate the expense of using heavy equipment during installation.

Xerxes fiberglass tanks are more compatible with storing highly corrosive ethanol-blended fuels, biodiesel fuels, and ultra-low sulfur diesel, and they are not vulnerable to rust caused by corrosive soil environments.

Ancillary equipment related to the installation of the Gilbarco E900 Series fuel dispensers will be acquired from ABC Equipment Company

Agreements, permits, and certifications

Certifications Equipment and Infrastructure [ex. Underwriter Laboratories (UL)]

Underwriter Laboratories (UL) certification is the top-rated safety certification worldwide due to its testing process being more rigorous and comprehensive than other certifications in several important areas:

- Product Safety: electrical safety, fire safety, and mechanical safety
- Longevity
- Resistance
- Durability, including testing under adverse condition

Major components being installed for ABC's expansion project include:

Manufacturer	Equipment	UL-Listing Info.
Gilbarco	Fuel Dispenser	UL 87A
Xerxes Corporation	Fiberglass Underground Storage Tank (UST)	UL 615

Zoning and Permitting Requirements

XYZ Equipment Company has prior experience and knowledge, to be able to obtain all necessary permits for this project. XYZ Equipment Company is responsible for all required permits for the construction and installation of the project. Below is listed permits that are generally required for a project of this industry and scope.

- Construction Permit
- Electrical Permit
- Plumbing Permit
- City Permit
- Notify the state and county prior to construction start
- Inspections- Fire and Tank

ABC is contracted to XYZ Equipment Company to manage and ensure the completion of the project, this includes construction, installation, equipment procurement, permits, zoning, codes, inspections and meeting all state and federal requirements. Based upon their previous experience, XYZ Equipment Company sees no potential issues receiving these permits in the timeframe necessary to meet the anticipated schedule of the project.

License Requirements

All contractors working on ABC's expansion project are licensed to operate in the state of Minnesota. Information regarding these licenses can be found in the "Qualifications of Project Team" of this document and the in the Supporting Documents attached to the grant application.

XYZ Equipment Company (XYZ)is Project Manager for ABC's expansion project. ABC and XYZ are familiar with licensing requirements related to the expansion project and will ensure all applicable licenses are updated and in place according to standard protocol for fueling station expansion projects of this nature.

Land Use Agreement Requirements

ABC owns the existing property where its expansion project will occur. No additional land use agreements are required for the project.

Permitting Requirements – Solid, Liquid, and Gaseous Emissions of Effluents

Public safety and compliance with applicable laws, regulations, agreements, permits, building codes, and standards are a non-negotiable priority for all stakeholders, vendors, contractors, and personnel involved in the project.

ABC management and the Project Manager will obtain any necessary permits for ABC's expansion project and ensure complete compliance with all state and federal regulations and laws.

ABC will comply with all Minnesota Rules, Chapter 7150, Underground Storage Tanks guidelines regarding design and operation for regulated USTs include tank and piping corrosion protection, overfill prevention, secondary containment, cathodic protection system testing, release detection, operation and maintenance testing, inspections, and other requirements.

ABC and subcontractors will file required 10-day pre-notification required for installations. ABC understands that a Certified Contractor must oversee all work, which must be in accordance with applicable codes.

Project Schedule

ABC management and the Project Manager will order the necessary equipment following award of the Higher Blends Infrastructure Incentive Program (HBIIP) grant and will have ordering complete by early February 2023.

Equipment is expected to arrive in April 2023, which is also when site work is scheduled to begin, contingent upon the weather. Mobilization and underground work will begin around mid-May 2023.

This includes pouring the footings for the canopy, removing, and replacing the old piping, and installing the new underground storage tank. In June 2023, the canopy extension structure will be installed, followed by the installation of the dispensers in mid-June 2023. The canopy will be finished at the end of June 2023, including the decking, lighting, and fascia. Commissioning and optimization of the system will be complete by the third week of July 2023.

ABC Convenience Plaza Schedule is subject to changes due to weather.

Order equipment, systems, parts	**After approval of grant, by early February**
Equipment arrives on site	April 1, 2023
Site work	April 1, weather dependent
Mobilization	May 15
Underground work: • **Piping – take out old, install new** • **Install tank**	May 15
Dispensers and tanks install	June 15
Commissioning – Initial start-up of system	Early July
Optimization of system	3rd week of July

Qualifications of Project Team

ABC management has worked with XYZ Equipment Company (XYZ) and QQQ Engineering (QQQ) Engineers and Surveyors to determine the appropriate specifications for integration of commercially available technologies and equipment with existing operations. JF Petroleum Group will be the equipment supplier for all major components of ABC's project. The station will utilize vendors, service providers, and labor who are familiar with installation procedures and practices for all aspects of the project.

Engineering, construction, equipment, and installation activities for ABC's project will include the following contractors/vendors:

CONTRACTOR/VENDOR	**SERVICE**
XYZ Equipment Company	Project Management/Installation
QQQ Engineering	Engineering and Design

Project management and equipment installation for ABC's expansion project will be provided by XYZ Equipment Company. (XYZ). Established in 1952, XYZ is a petroleum equipment distributor located in Mankato, MN. The company operation consists of sales, design, and complete installation and service of petroleum, automotive, and industrial equipment including automated dispensing equipment, underground tanks, electronic tank monitoring, truck equipment, bulk fuel plants, lube equipment, and air compressors. XYZ also provides in-shop and on-site service of all equipment, as well as on-call service technicians 24 hours a day 7 days a week.

XYZ Equipment Company (XYZ) is registered as a contractor in the state of Minnesota. They have installed 12 similar systems throughout Minnesota within the past 3 years.

John Doe, General Manager at XYZ since 1980, is the overall Project Manager for ABC's project. With over 40 years of experience in the industry and with XYZ, Mr. Doe has vast knowledge of the petroleum, oil, and gas industries, as well as specializing in operations management, inspections, business development, contract negotiation, and strategic planning.

Engineering, Design & Electrical

Project site layout and design for ABC's project will be provided in cooperation with QQQ Engineering. Founded in 1945, QQQ Engineering is an engineering and land surveying firm, licensed in Minnesota, Iowa, Wisconsin, Ohio, and Kansas. In 2007, QQQ purchased the assets of Hosfield and Associates, a third-generation land surveying company founded in 1947. JHS maintains offices in Albert Lea, Austin, and Owatonna which allows its team to provide exceptional service throughout the region.

Preliminary drawings of ABC's project site have been provided by Steven J. Thompson, duly licensed Land Surveyor at QQQ, License No. 22705 current through 12/30/2025. Further information can be found in the Supporting Documents attached to the grant application.

ABC has completed similar projects previously with these contractors previously. In fact, XYZ performed the original installations, which have been successful and performing since fruition of the location.

Resource Assessment

According to the Renewable Fuels Association (RFA), Minnesota produces 1,254 million gallons of ethanol, and consumes 323 million gallons on an annual basis. With a surplus of 931 million gallons, Minnesota can cover any increase in consumption of ethanol fuels. According to Biodiesel Magazine, Minnesota has the capacity to produce 63 mmgy of biodiesel, with additional production located in adjoining states. ABC has been in discussion with FUEL SUPPLIER X and FUEL SUPPLIER Y and both have indicated their ability to meet ABC's increased biofuel sales.

Demand

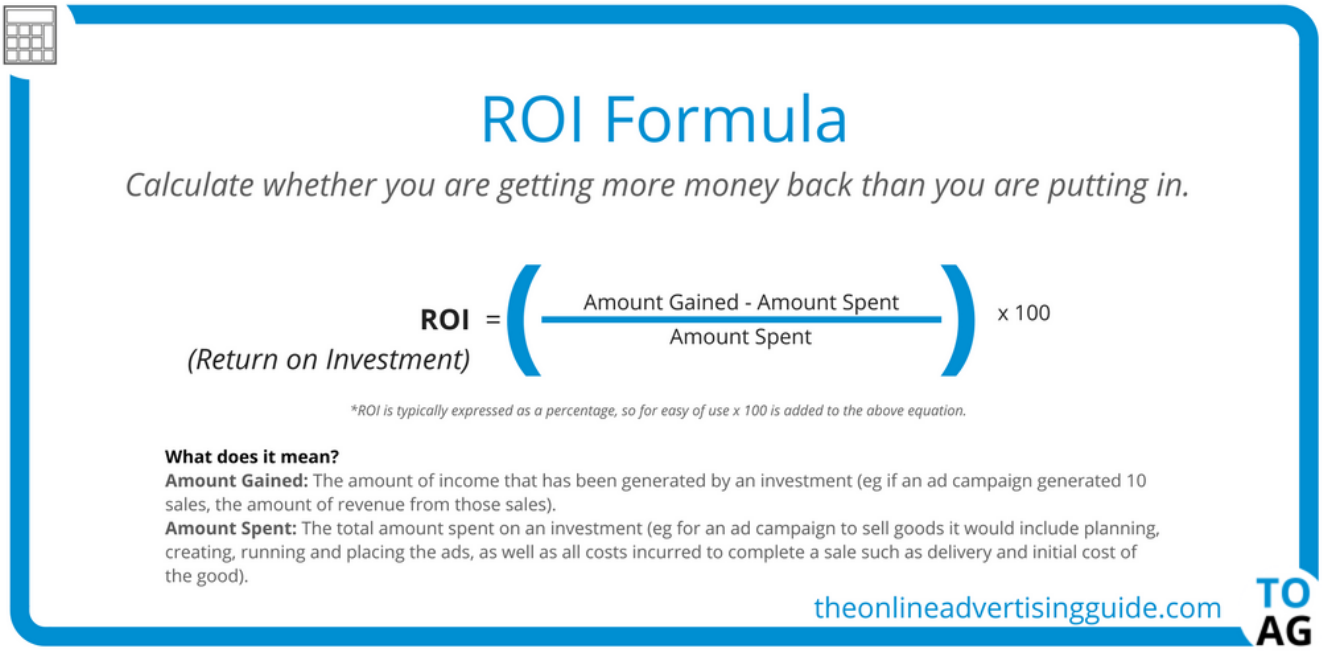
In conjunction with this project ABC developed a Marketing Plan to support the scope of this project. ABC has been offering E10 since 2010 and has seen an increased demand for the product. The Minnesota legislature has considered an E15 mandate and while it is not in effect it continues to be discussed. The closest station offering E15, or other higher blends, is 4 miles away and does not have the interstate corridor. ABC current signage has the capacity to accommodate advertisement of E15 along with the current fuel products.

Project Economic Assessment

ABC Convenience Stores is estimating the total cost of the project to be $2,000,000. Major costs to the project are equipment, site preparation and installation.

2020 net income for ABC was $2.9 million, which based on the Marketing Plan is projected to increase to $3.1 after completion of the project. The project is projecting to increase sales by $200,000, or 4.2 percent.

ROI



ABC's ROI was calculated using projected sales less the historical costs, this amount is Amount gained from this project. The amount spent would be the total budget for the project.

- Historical average: $2,900,000
- Projected Sales: $3,100,000
- Total Budget: $2,000,000

  (3,100,000 – 2,900,000)/$2,000,000= 10%

ABC's project includes one location, with major costs being the 12 new fuel dispensers and new UST. Site preparation consists of breaking up concrete to install the new equipment and putting in new concrete to fill the area after installation.

Statement of Certification and Assurances

We, (Applicant Name), certify the project will be installed in accordance with applicable local, State, and national codes and regulations. In particular, the project must conform to all applicable Federal, State, and local regulatory requirements pertaining to:

i. Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST), 40 C.F.R. Part 280 and Part 281.;

ii. Regulation of Fuels and Fuel Additives, 40 C.F.R. Part 80.;

iii. Occupational Safety and Health Standards Subpart H— Hazardous Materials Section 106—Flammable Liquids, 29 C.F.R. §1910.106.;

iv. Safety and Health Regulations for Construction Subpart F— Fire Protection and Prevention Section 152—Flammable Liquids, 29 C.F.R. §1926.152; and

v. (5) Automotive Fuel Ratings, Certification, and Posting, 16 C.F.R. Part 306.

(Name) (Title)

(Signature) (Date)