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To: Utah Public Service Commission

From: Utah Division of Public Utilities
Chris Parker, Director
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Date: July 3, 2013

Re: **Comments – Docket No. 13-057-02**
S.B. 275 – Alternative Fuel Facilities and Vehicles

OVERVIEW

Senate Bill 275, passed in the 2013 legislative session and sponsored by Senator J. Stuart Adams provides a mechanism to advance the natural gas vehicle refueling infrastructure. It also provides a process for development of further mechanisms to address air quality issues and alternative fuel use. This docket, opened by the Public Service Commission of Utah (Commission) is part of that process. SB 275 required the Commission process to explore and develop options and opportunities for advancing and promoting measures designed to result in clean air in the State. These comments are the Division of Public Utilities' (DPU) initial comments in that proceeding.

DISCUSSION

SB 275 allows for the creation of an interlocal entity to help facilitate the conversion to alternative fuel vehicles or the construction, operation and maintenance of alternative fuel facilities for public entities. The bill creates a governing body for that interlocal entity. The Division understands that some public entities are progressing toward forming the contemplated interlocal entity. Until the formal agreement among the parties has been established it will be difficult to determine the responsibilities and priorities of the various government agencies that

will be involved. The interlocal's role in promoting the conversion to alternative fuel vehicles[1] will unfold over time.

The Division of Public Utilities has supported the use of natural gas vehicles and has supported Questar Gas's efforts to develop natural gas fueling locations throughout the State. Questar provided information in the May 22, 2013 Technical Conference indicating that there are currently 29 Questar owned refueling locations with an additional 9 private/public stations and 6 State/Municipal stations.[2] In addition to the public use stations, several individual companies and government agencies have installed refueling facilities for private use. Companies like Waste Management, Coca Cola Squire Holdings, Lifetime Products and American Nutrition are just some of the companies that have installed facilities for private use. The private facilities have been built based in the economic advantages of lower fuel cost to the individual companies.

The stated goal of this legislation is to reduce vehicle emissions and improve air quality in Utah. SB 275 has a number of objectives and goals that could potentially increase the number of natural gas vehicles and refueling locations, however the bill does not clearly define the priorities for implementation.

Individual consumers will likely not convert to alternative fuel if refueling locations are inconvenient or difficult to access. Likewise, public refueling stations will likely not be built if demand for services is insufficient to generate the volume necessary to produce acceptable (competitive) returns on investment. Fleet vehicles, with the ability to return to a centrally located home base for overnight refueling, may prove an exception to this dynamic.

Since improved air quality appears to be the primary goal, implementation of this bill should, at least in the short run, be focused on large trucks and busses and not on individual consumers. Focus on fleet vehicles will likely achieve the greater returns in terms of improvements in air

[1] This memo focuses on natural gas vehicles as the type of alternative fueled vehicles contemplated by SB 275. Other technologies exist, but the Division's expertise is in utility regulation. As yet, natural gas vehicles are the only vehicles with which the Division has experience. Similarly, SB 275's direct provisions involve a gas corporation's construction and operation of natural gas refueling infrastructure. The Division fully expects others will comment on various other technologies.
[2] Senate Bill 275 Technical Conference, May 22, 2013, page 3

quality. This is because the air quality impact of older and larger, higher-duty vehicles switching to natural gas technology is greater than a similar number of smaller light-duty vehicles switching.

Some reports indicate that the use of natural gas as an alternative fuel for transportation is projected to have a significant impact on heavy-duty trucks in future years. For example, the recently released EIA Annual Energy Outlook for 2013 includes a section on "Fuel Switching" and includes a discussion on the use of natural gas fuel in large trucks as well as locomotives and marine applications. In reference to the large trucks, the EIA report states that:

> The use of natural gas in the Reference case is economically driven. Even after the substantial costs of liquefaction or compression, fuel costs for LNG or CNG are expected to be well below the projected cost of diesel fuel on an energy-equivalent basis. The fuel cost advantage is expected to be large enough in the view of a significant number of operators to offset the considerably higher acquisition costs of vehicles equipped to use these fuels, in addition to offsetting other disadvantages, such as reduced maximum range without refueling, a lower number of refueling locations, reduced volume capacity in certain applications, and an uncertain resale market for vehicles using alternative fuels. For purposes of the low demand scenario for liquid fuels, factors limiting the use of natural gas in heavy-duty vehicles are assumed to be less significant, allowing for higher rates of market penetration.[3]

SB 275 asks the Utah Public Service Commission to explore and develop options and opportunities to promote cleaner air in the State and specifically identifies four areas to explore. While these areas should be addressed by commenters, the bill does not limit the scope to just these four issues. If there are other ideas or measures presented, they should be reviewed and compared with the other alternatives that could promote clean air in the State. The items that are specifically mentioned in the bill are identified below and followed by the DPU's comments on each point.

1. **The role Questar Gas should play in the enhancement and expansion of the infrastructure and maintenance and other facilities for alternative fuel vehicles**.

[3] US Energy Information Administration (EIA) Annual Energy Outlook, April 2013, p 36

As mentioned above, Questar owns and operates 29 refueling locations primarily along the I-15 corridor from Logan to St George. In addition to the utility owned stations, there are 9 private/public stations and 6 State/municipal stations. With one exception,[4] each of the private and municipal location has been developed cooperatively with Questar Gas to evaluate the location and install the necessary equipment for each of the proposed locations. It is anticipated that this relationship with Questar will continue in the near future as new facilities are developed.

Ultimately, a robust refueling infrastructure for retail customers, large and small, will depend upon competition. As the base of infrastructure has grown, private companies have begun to add independent refueling stations. Companies like Blu LNG have several existing locations with expansion plans in Utah and other states. Independent companies will most likely expand the refueling locations near interstate highways similar to the way that many companies have locations for conventional gasoline and diesel fuel.

Questar, in conjunction with utility regulators, has established the price at $1.49 per gas gallon equivalent (GGE). All Company owned locations available to the public sell the natural gas at the same price regardless of the location. The current price is comprised of the following components:

Natural gas commodity	.50
Interstate Transportation	.10
Distribution Costs	.09
Compression, Parts, Labor & Fees	.54
Federal and State Tax	.26
TOTAL	1.49

At the present time, the independent stations are matching the Questar price but this could change in the future as more independent stations are developed and if additional products or services are offered by independent station owners in a convenience store or

[4] Blu LNG is an independent operator and is not connected to the Questar Gas system

other marketing concept. The economics for station owners may also allow a different pricing structure.

The pricing of natural gas could also change if Questar Gas were ordered by the Commission to move, or voluntarily moved the operation of the CNG stations to an unregulated entity like Questar Fueling. A competitive market with Questar Gas not building and operating refueling stations would be subject to different market conditions. While competitive stations may pay the same price for actual gas delivered through Questar Gas's regulated distribution system, competition could occur on the other components of the cost described above. Additionally, gas supplies might be obtained at a wholesale level with varying transportation options to the station.

While Questar Gas has played an important and active role in the development of natural gas refueling infrastructure, long-term widespread adoption of natural gas vehicles depends on a robust competitive market. SB 275 provides an avenue to expand refueling infrastructure through Questar Gas. It may be that the interlocal entity's experience through SB 275 will lead to innovations that aid in this transition, such as competitive bidding for refueling infrastructure projects and the like. In other words, to promote and sustain further competition and, thus, further development of conveniently located refueling stations it may be necessary for Questar, in the long run to transition out of offering services at the publicly accessible stations.

2. **Potential funding options to pay for the enhancement and expansion of infrastructure and facilities for alternative fuel vehicles.**

As mentioned, this bill did not include any independent funding provisions. The bill did require the Commission to approve expanded development of natural gas refueling infrastructure by Questar Gas. Section 1 states:

> The commission shall find that a gas corporation's expenditures for the construction, operation and maintenance of natural gas fueling stations and appurtenant natural gas facilities for use by state, political subdivisions of

> the state, and the public are in the public interest and are just and reasonable, if: . . . .

The Division recommends that the legislature or the interlocal entity provide clarity on whether the $5M annual expenditure should include O&M expenses for existing stations. This clarification could have a significant impact on the funds available for new facilities. The bill's language currently appears to count existing operations and maintenance expenses against the $5 million annual figure. The Division believes the intent was that the bill's $5 million annual cap was intended to apply to the new infrastructure added in that year. The language concerning operations and maintenance appears to be intended to count toward the 50% revenue requirement provision, not the $5 million cap. This should be the subject of future legislation.

Subsection (a)(ii) identifies a $5 million annual cap but does not address the source of the funding, however, based on the language of the bill the Division assumes that the utility will be collecting the funds. Section 2 identifies a tracker as the funding mechanism for the gas company to seek recovery of expenditures for CNG expansion between general rate cases. This would be similar to the existing tracker in place for the Questar feeder line replacement program. While this may be an option, it is difficult to see how a utility can collect the funds through customer rates and then have an interlocal government entity directly participate in funding or direct the use of the funds to a specific project. This arrangement potentially could be confusing and frustrating to the utility and its rate payers, and could interfere with the regulatory responsibilities of the Public Service Commission. The utility's expenditure of funds must be determined by the utility. Obviously, there should be a high degree of cooperation between the interlocal entity and the utility. The Division believes SB 275 implicitly recognizes this point.

During the legislative debate there was discussion of the use of an existing fund at Questar that could be used to pay for all or a portion of this program. While it was not clearly identified, the Division believes this may be referring to the current Demand Side Management (DSM) program. Questar's rate payers have provided these funds for, in

the Division's view, the purpose of encouraging conservation. In promoting increased consumption of natural gas, the purposes of SB 275 are not consistent with the intent of the DSM programs. Therefore, the Division suggests that Questar's DSM programs may not be a viable source of funds. Alternatively, while not meant as an exhaustive list of other funding options, the Division proposes two alternatives for consideration:

A. **Fuel Tax -** One option may be to expand the fuel tax on existing gas and diesel products sold in the State. A portion of the funds collected through this tax could be earmarked for the construction and operation of alternative fuel facilities. As new technology becomes available, funds could be used to construct other facilities such as electric charging stations. This option creates the greatest flexibility going forward and could allow the interlocal agency to be directly involved in the decision making and funding process. It would also necessitate the involvement of other transportation agencies given restrictions on funds collected through a fuel tax.[5]

B. **Surcharge on current NGV users -** This option would add a surcharge to the rate charged to the existing NGV users. Such a surcharge would increase the cost of natural gas used for vehicle fuel. This increase in cost could diminish the economic incentive for users to switch fuels as the cost differential between conventional fuels and natural gas shrinks.

3. **The role of local government in facilitating the conversion to alternative fuel vehicles and promoting the enhancement and expansion of infrastructure**—

Several governmental agencies have already taken the lead in constructing refueling facilities for agency use and in many cases have made them available for public use. The following government entities have some type of refueling facilities and will have completed the purchase or conversion of some portion of their fleet vehicles. These entities have used existing funds to purchase vehicles and construct facilities without the need of utility funded subsidies. [6]

1. Alpine School District
2. Canyons School District

[5] Utah Code Section 59-13-201.
[6] Other subsidies may have been available and used. However, the Division has no knowledge of them.

3. Granite School District
4. Jordan School District
5. Utah State University
6. University of Utah
7. Salt Lake Community College
8. Salt Lake International Airport
9. Salt Lake County – Oxbow Prison
10. Washington City
11. Ogden City

It appears that several municipalities and some of the large school districts are moving forward with plans to convert some transportation assets to natural gas. The Division believes that if Questar Gas is used as the primary developer of refueling infrastructure, local government entities benefiting from that infrastructure should bear some of the expense or incur some level of purchase obligation to ensure that Questar Gas's ratepayer provided assets are employed as economically as possible. The terms of that involvement can be set cooperatively between the utility and the local government. Utility actions, as always, will be judged for prudence in the ordinary course of regulatory review.

4. <u>The most effective way to overcome any obstacles to converting to alternative fuel vehicles and to enhancing and expanding the infrastructure and facilities for alternative fuel vehicles.</u>

Adoption of alternative technologies is often a slow-developing process. For alternative fuel vehicles, widespread adoption will not occur in the absence of widespread refueling infrastructure. However, widespread refueling infrastructure has not been quick to materialize in the absence of Questar Gas's involvement and robust demand. Despite Questar Gas's nationally-pioneering role in building a viable base of natural gas refueling infrastructure, ultimately the success of any program aimed at widespread adoption of natural gas vehicles depends upon the development of a competitive market.

In the near term, SB 275 likely aids in the development of this infrastructure as it allows the development of refueling stations that would otherwise be uneconomical for Questar Gas to build and operate. In the longer term, however, these provisions will serve as a

hindrance to further development as the ability of one participant to develop uneconomic stations keeps other market players out. Further, the relatively low cap on expenditures in SB 275 will limit the number of facilities that can be built.

However, in the near term, measures can be employed to ensure the most beneficial use of the available resources. Incentives and funding should be given to the projects that will have the greatest impact on air quality. The evaluation process and criteria should be determined in advance. Questar Gas and the interlocal entity should work cooperatively to identify the most pertinent criteria. Assistance from air quality regulators will be helpful in this process as well. Several potential considerations are identified below.

1. Concentrating on areas with the greatest air quality needs
2. Construction of facilities and infrastructure versus conversion of equipment
3. Conversion of existing vehicles versus purchase of new equipment
4. Consideration of number of vehicles converted or retired per dollar spent
5. Consideration of access for retail customers
6. Preference for greater vehicle miles traveled
7. Geographical equity
8. Density of current refueling locations

OTHER ITEMS TO BE CONSIDERED

Cleaner Diesel Technology: While this bill's active provisions are focused on the conversion of vehicles to natural gas, the stated objective is to promote clean air in the State of Utah. The Commission should consider the impact that other technologies could have on promoting clean air. In addition to looking at natural gas, the Commission should evaluate the impact that converting vehicles to the cleaner diesel technology may have on air quality. Likewise, parties with expertise in air quality and economic incentives should explore additional incentives and provisions.

Tax Revenue: Fuel switching potentially could impact state and federal taxes revenues. Questar currently collects $.183 Federal tax and $.085 State tax for a total of $.268 on each gas gallon

equivalent (GGE) of natural gas sold. This is significantly less than the amount collected for Federal and State taxes on conventional fuel. The American Petroleum Institute provides a calculation of the combined federal and state tax for gasoline and diesel sales.

	CNG	**Gasoline**	**Diesel**
Federal Excise Tax[7]	$ .183	$ .184	$ .244
State Excise Tax[8]	$ .085	$ .245	$ .244
TOTAL TAX	**$ .268**	**$ .429**	**$ .488**

As more vehicles convert to natural gas, the State may not be collecting the appropriate tax to maintain roads and bridges. This could exacerbate existing shortfalls resulting from more fuel efficient cars, which have impacted tax revenues from per-gallon assessments.

CONCLUSION

The Division views the bills objective as promoting improvements in air quality through the conversion or replacement of existing private and fleet vehicles to run on alternative fuels, primarily natural gas. The viability of this objective will depend on the development of natural gas refueling stations throughout the state.

In the short run, given the limitations described herein, the Division suggests that the primary focus should be on conversion among fleet vehicles. Focus on fleet vehicles will likely achieve the greater returns in terms of improvements in air quality. For example, conversion or replacement of a large or heavy duty fleet vehicle(s) with a cleaner technology based one will likely have a greater impact on air quality than the conversion of a few private vehicles.

While fleet vehicles may economically return to a home base to refuel overnight, unless public refueling stations are readily accessible and conveniently located, private conversion will likely be limited. To provide for or encourage the development of sufficient stations to capture and maximize the benefits of conversion of private vehicles, the Division suggests that a viably competitive market will necessarily need to be allowed to develop. Therefore, in the long run,

[7] American Petroleum Institute, April 24, 2013 www.api.org/tax
[8] Utah State Tax Commission – Frequently Asked Questions, http:tax.utah.gov/fuel/faq#3

the Division recommends the development of strategies aimed at bringing a competitive natural gas refueling infrastructure into being.