

Public & Retail Utility Provisions Regarding Electric and Natural Gas Vehicles (draft v10, an Act for consideration by the 2012 Colorado General Assembly)

Preamble/overarching new CRS language: This proposed Act is designed to foster market development of electric and natural gas vehicles and associated charging and fueling infrastructure in Colorado. The Legislature finds this Act will serve the interests of the State of Colorado and the nation by, among other things, increasing the use of domestic energy sources, fostering economic development, reducing mobile source emissions, increasing utilization of existing utility generating capacity, transmission and distribution assets, and avoiding to the extent feasible, or otherwise minimizing, additional utility operating expenditures and capital investments to support incremental electricity demand at system peak times.

1. Electric and natural gas transportation fuel sales by non-utilities.

Explanation for this section: This statutory change will confirm that selling electricity for vehicle use or purchasing the energy back from a vehicle owner (i.e., bi-directional charging) does not render the seller or buyer a public or retail utility. Minor, conforming changes are made to the existing statute regarding sale of natural gas as a transportation fuel. Also, expanding the current utility statutory definition of "alternative fuel vehicle" clarifies its applicability to the sale of electricity and natural gas as vehicle transportation fuels.

This section specifically addresses the **sale** of electricity and natural gas as motor fuels and **not** the generation source of the electricity or utility investments. **The driving reasons for electric vehicle (EV) language in this section include (1) current State utility law regulates the sale of electricity without regard to its application as a vehicle transportation fuel; (2) electricity sales for vehicle use can be an inherently competitive activity that will involve a broad spectrum of public and private property owners and businesses (e.g., grocery stores, fueling stations, restaurants, parking garages, entertainment venues, airports); (3) regulation of the final sale of electricity for vehicles creates an artificial barrier to market entry; (4) parties selling traditional motor fuels (such as gasoline or diesel) are not regulated as utilities; and, (5) ubiquitous EV charging locations can enable early and larger volume sales of EVs. In 2010, the California PUC approached EV charging regulation in a manner similar to this section by issuing an order per Docket #: R.09-08-009.**

New CRS language in bold and deletions in strikethrough regarding current statute for NGVs: 40-1-103. Public utility defined. (4) For the purposes of articles 1 to 7 of this title, persons selling compressed **or liquefied** natural gas or its component parts or by-products to governmental entities or to the public for use as fuel in alternative fuel vehicles shall not **make the seller subject to regulation as a** ~~be considered to be public or retail utility~~ utilities. As used in ~~this subsection (4)~~ **subsections 1 to 7 of this title**, "alternative fuel vehicle" means any automobile, truck, motor bus, **boat, airplane, train, tractor and other types of motorized off-highway equipment** or other self-propelled device or vessel which is capable of moving itself or being moved from place to place **utilizing natural gas, electricity, or a combination of natural gas and electricity as transportation fuel**, whether or not it is used in agricultural, commercial, domestic, or industrial operations.

New CRS language for EVs: 40-1-103. Public utility defined. (5) For the purposes of articles 1 to 7 of this title, selling electricity to governmental entities or to the public for use as fuel in alternative fuel vehicles or selling or buying electricity stored in such vehicles for resale shall not make the seller or buyer subject to regulation as a public or retail utility. Persons selling electricity for use in an alternative fuel vehicle shall provide reasonable notice to the public or retail electric utility that provides electricity to the premises or property at which the charging facility will be located.

New CRS language. CRS 40-1-103(4) and (5) shall also apply to retail utility regulation in Colorado. Retail Utility shall mean rural electrical cooperatives and municipal utilities.

2. Electric power generation for alternative fuel vehicle charging and fueling facilities.

Explanation for this section: The right to generate and distribute electric power by public and retail utilities and other parties is covered extensively in Colorado statutes, case law and regulations. Therefore, this section does not attempt to restate rights already held by utilities (at the request of the PUC). Instead, this section **clarifies** electric power purchase requirements and rights by non-utilities to generate power with respect to alternative fuel vehicle charging and fueling facilities.

Alternative fuel vehicles are simply a new type of electric or natural gas appliance, similar to other appliances that create an energy load at the premises or property such as an air conditioning unit, washer or dryer, heating system, oven, computer, TV or light. The difference lies in the mobile, rather than stationary, nature of these vehicles that require electricity and natural gas to operate. As such, energy requirements for such vehicles should be viewed as part of the energy requirements of the premises or property while allowing for non-utility participation in final delivery, and in some cases distributed electric power generation, of the transportation fuel for alternative fuel vehicles.

The current body of Colorado utility law and regulation governs electric power generated for or within a premises or property envelope and such envelope should be clarified to include the electric power requirements for an alternative fuel vehicle charging or fueling facility. For example, a commercial building owner or operator with solar PV panels or wind turbines on the property should be allowed to size this power generation capacity to meet the building's and charging or fueling facility's energy requirements. In another example, distributed electric power generation in such form as solar gardens should be allowed to be coupled to the alternative fuel vehicle charging or fueling facility. These examples should be covered by the statutes and regulations associated with the Colorado Renewable Portfolio Standard and other examples (such as natural gas fed solid oxide fuel cells for distributed electricity power generation) should be allowed and/or covered by current utility laws and regulations. In the case of electric power generation outside of this context and for the sole purpose of providing electricity to these facilities, then the typical retail electric utility regulatory process should apply to the parties involved.

New CRS language.

I. Owners or operators of property or premises containing an alternative fuel vehicle charging or fueling facility or of the facility shall purchase the electricity required for such facility from a public or retail utility or other entity with the right to sell electricity to the property or premises except when the owners or operators of such property or premises or facility generate electricity on the property or premises for use in alternative fuel vehicles as authorized by subsection II.

II. Generating electricity for use in alternative fuel vehicle charging or fueling facilities shall not make the owner or operator of such generating facility subject to regulation as a public or retail utility, provided that:

- a. The electricity is generated on the property or premises where such charging or fueling facilities are located; and,
- b. Such power is generated from a renewable source in accordance with the 120% distributed power generation limitation described in CRS 40-2-124(1) or is generated on site from natural gas if the public or retail utility with the right to sell electricity to the property or premises also is the natural gas utility for such property or premises.

III. The determination of the electric power requirements for the premises or property pursuant to CRS 40-2-124(1) shall include the alternative vehicle charging or fueling facility in addition to buildings and other improvements.

IV. Sale of electricity or natural gas by a public or retail utility to the owner or operator of an alternative fuel vehicle charging or fueling facility shall not be construed by any party as a wholesale transaction.

3. Utility construction allowances, level of service and system investments.

Explanation for this section: This section of the Act (1) **clarifies** terms regarding utility construction allowances beyond their current application to buildings to include charging and fueling facilities; (2) **establishes** that utilities shall meet reasonable requests for levels of service made by owners and operators of charging and fueling facilities; and, (3) **defines** allowed investments by public and retail utilities related to charging and fueling facilities.

As background, Colorado PUC rules (4 CCR 723-3209, 4 CCR 723-3210 and 4 CCR 723-4210) require a public utility to extend and connect electric and natural gas service to customer premises or property located in the utility's service territory. Other utility regulatory bodies make similar requirements. The manner in which the costs associated with such extensions and connections (also known as construction allowances) are capitalized and recovered from the utility customer or from a class of utility customers is determined in the utility's applicable tariff.

Since electric and natural gas vehicles are relatively nascent, utilities have typically not included alternative fuel vehicle charging and fueling facilities in their definition or interpretation of extensions and connections of electric and natural gas service to "customer premises or property" (and thereby have limited such definition to buildings and other traditional improvements on a site). As a result, owners and operators of charging and fueling facilities often must pay the utility for such extension and connection costs up front (for example, the compressed natural gas fueling facility built in Commerce City in 2011 for a refuse hauling company required an up-front \$250,000 natural gas service extension and connection fee). This section would treat the energy requirements for charging and fueling facilities as additional energy load in a manner similar to the additional energy load required by a new building or expanded building, while leaving the construction allowance process, rules and procedures unchanged.

In addition, access to appropriate levels of electric and natural gas service for charging and fueling facilities (such as natural gas pressure and electric service voltage/amperage) during the extension and connection process should be made available to the utility customer. In some cases, utilities have provided the level of service that is closest in proximity to the charging or fueling facility rather than meeting the needs of the facility (for example, 20 psi natural gas service is often provided to a natural gas fueling facility when 100 psi service is available across the street or a block away, which would save on equipment costs and increase fueling capacity of the facility). This section will optimize the energy delivery capabilities of the charging or fueling facility and minimize its equipment and installation costs.

Further, as the energy demand of the electric and natural gas grids grow due to the transition of vehicles away from traditional fuels such as gasoline or diesel, certain utility system improvements must be made. This process will be similar to upgrades to substations, transformers and other aspects of the grid that were made for residential neighborhoods and commercial buildings as air conditioning became mainstream in the 1980s and 1990s and as purchases of personal computers and power electronics mushroomed in the past decade. As such, investments made by the utility on its side of the meter to address energy demand from alternative fuel vehicles should be treated like operating expenditures and investments it would make for any other incremental customer energy load.

Finally, to attract investment capital and provide a level playing field for alternative fuel vehicle charging and fueling facility market participants, the types of allowed regulated and unregulated operating expenditures and investments related to such facilities are defined for public and retail utilities.

New CRS language:

- I. The term “customer premises and property” with respect to a public or retail utility electric or natural gas extension or connection of service shall include alternative fuel vehicle charging and fueling facilities in addition to buildings and other improvements with respect to the regulations, rules and procedures of the governing body for the public or retail utility, and current and future electric and natural gas tariffs.
- II. Public and retail utilities shall make commercially reasonable efforts to provide extension and connection of electric and natural gas service to customer premises and property at the voltage and amperage of electric and pressure of natural gas service reasonably requested by the customer to optimize energy delivery to the alternative fuel vehicle charging or fueling facility and minimize equipment and installation costs for such facility.
- III. Public or retail utilities may make regulated operating expenditures and capital investments (1) on the utility side of the meter for extension and connection, otherwise known as construction allowance, of electric and natural gas service to customer premises and property; (2) for alternative fuel vehicle charging and fueling facilities located at a single or multi-family residence for the primary use of the resident(s); and, (3) on the utility side of the meter to generally enable its electric and natural gas distribution systems to meet the energy demand for alternative fuel vehicles. For such activities, public and retail utilities shall be allowed to receive full recovery of operating expenditures and capital investments (plus appropriate rate of return on capital investments with respect to public utilities) as determined by the applicable regulatory process of the Colorado Public Utilities Commission and retail utility regulatory bodies.
- IV. Nothing in this Act shall limit the right of a public or retail utility to make unregulated operating expenditures and investments with respect to alternative fuel vehicle charging and fueling facilities.
- V. The public or retail utility expenditures and investments described in this section shall be viewed equal in priority to all other infrastructure necessary to serve any customer of the public or retail utility in its service territory and be subordinate to safety and reliability obligations of the utility.
- VI. For purposes of determining allowed operating expenditures and investments, a public or retail utility’s electric or natural gas meter shall mean its traditional point of energy delivery and not the energy measurement device located in an electric charging equipment or natural gas fueling dispenser.

4. Off-peak utility electricity rates.

Explanation for this section: Transportation energy requirements are beginning to move away from oil and towards electricity and natural gas. This change has and will continue to increase demand by customers for energy from utilities. In order **to avoid** whenever feasible, or otherwise minimize, new utility investments in power generation assets to meet this demand (and prevent where possible or mitigate associated increases in electric rates to all end users), efforts to shift the time of use of this electricity from peak demand times to low demand times are critical.

This section will foster the development and implementation of off-peak electric rates for use in electric vehicle charging facilities and operation of electric-drive natural gas compressors that are part of a natural gas vehicle fueling facility. These off-peak rates will be less than peak rates in order to encourage shifting of the electrical demand time of use.

New CRS language (amend 40-3-106(1) and other statutes as appropriate): Public and retail electric utilities may develop innovative electric rate structures for off-peak charging of electric vehicles and off-peak power use for electric-drive natural gas compressors for natural gas fueling facilities and related policies. Such electric rate structures may include time of day, demand response and other elements as appropriate to encourage electric vehicle owners and operators to schedule the charging of electric vehicles during off-peak periods when existing generating and transmission capacity is available to serve the demand for electricity for use in alternative fuel vehicle charging and fueling facilities. These rate structures are intended to:

- a. Reduce barriers and provide lowest cost energy, within the parameters of subsections b, c and d, below, for end-use customers to increase the use of domestically generated electricity and natural gas production,
- b. Avoid whenever feasible utility cross-subsidization between rate classes and increases in rates within a rate class,
- c. Assist public and retail utilities in assimilating electric demand growth attributable to alternative fuel vehicles with existing unused generating capacity, and
- d. Avoid whenever feasible, or at least minimize, additional operating expenditures and capital investments for all rate classes by shifting electric load growth away from expensive, system peak load times.

5. Utility regulatory policy development.

Explanation for this section: As a necessary counterpart to the language applicable to public and retail utilities and other entities described in this Act, authorization for these regulatory bodies to Act is essential. This section provides that language, which is complementary to the activity underway by the Colorado Public Utilities Commission per docket No. 11I-704EG.

New CRS Language (amend 40-3-106(1) and other statutes as appropriate).

The Colorado Public Utilities Commission (PUC), in consultation with appropriate State agencies and offices as well as other interested parties, may develop policies to enhance the adoption and use of low-emission alternative fuel vehicles. All work required to meet the requirements of this section shall be within the current funding and capabilities of the government agencies and offices involved.