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**BEFORE THE ARIZONA CORPORATION COMMISSION**

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Arizona Corporation Commission

**DOCKETED**

TOM FORESE – Chairman  
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JUSTIN OLSON

APR 23 2018

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**IN THE MATTER OF THE  
COMMISSION'S EXAMINATION INTO  
THE MODERNIZATION AND  
EXPANSION OF THE ARIZONA  
RENEWABLE ENERGY STANDARD  
AND TARIFF.**

DOCKET NO. E-00000Q-16-0289

**FREEPORT MINERAL  
CORPORATION AND  
ARIZONANS FOR ELECTRIC  
CHOICE AND COMPETITION  
COMMENTS**

Freeport Minerals Corporation and Arizonans for Electric Choice and Competition (collectively, "AECC") hereby submits these Comments in the above-captioned docket.

Arizonans for Electric Choice and Competition ("AECC") welcomes the opportunity to respond to the Notice of Inquiry ("NOI") regarding the Arizona Corporation Commission's ("Commission" or "ACC") review of the existing Renewable Energy Standard Tariff ("REST") rules and regulations. The NOI is intended to allow the Commission to more fully evaluate proposals set forth in Commissioner Tobin's Arizona Energy Modernization Plan ("AEMP"), including identifying the potential cost impact to Arizona ratepayers in transitioning to more renewable-based generation for those customers served by investor-owned electric providers.

Rather than provide the Commission with detailed responses to the numerous individual questions included in the NOI, AECC is providing this summary of its comments regarding the potential expansion of renewable generation and clean-based technology, and the role that the Commission, industry and customers should play, in modernizing overall energy policy in Arizona.

1 **DISCUSSION**

2 I. REST Rule Changes.

3 AECC does not advocate for expansion of the existing REST standard of 15%  
4 renewable energy generation by the year 2025. AECC believes competition is the best  
5 energy solution as mandates have unintended consequences which leads to delay and  
6 additional administrative processes. Renewable energy, such as solar, has become  
7 increasingly cost competitive since the REST was initially adopted. To the extent that the  
8 market penetration of renewable energy increases beyond this level, it should be the result  
9 of competitive economics, not the result of government mandates. To this end, AECC  
10 believes that integration of a competitive market, even in limited fashion, can help move  
11 Arizona towards a more modernized electric system. Today many customers want to be  
12 served with 100% renewable energy. A competitive market would allow those customers  
13 to choose any quantity and type of renewable energy they desire. This type of transition  
14 does not have to occur overnight, and can coincide with the competitive market replacing  
15 the need for “new” utility-owned generation to meet growth and eventual utility-plant  
16 closures. In this way, existing utility generation assets would not become stranded.

17 The competitive market can also work to accelerate innovation and industry-wide  
18 change, similar to how the telecommunications industry has evolved over the past 20  
19 years – all to the benefit of consumers. Choice and competition in telecommunications  
20 has led to new products and services, as well as lower costs. By contrast, an energy  
21 system that is predicated on government mandates that favors renewable technologies is  
22 likely to increase costs over both the short and long terms. For instance, the Renewable  
23 Electricity Futures Study completed by the National Renewable Energy Laboratory  
24 (“Study”) shows that increased renewable electricity levels generally led to higher  
25 electricity system costs and average retail electricity prices, compared to a “baseline”  
26 representing no new policies, little retirement of the existing coal fleet, incremental

1 renewable technology improvements, and low-demand growth. By its own admission,  
2 however, the Study does not contain a comprehensive cost-benefit analysis, nor did it seek  
3 to find the optimal greenhouse gas mitigation or clean energy pathway. In fact, most of  
4 the scenario assessment was conducted in 2010 with assumptions concerning technology  
5 cost and performance and fossil energy prices generally based on data available in 2009  
6 and early 2010.

7 Prior to considering additional renewable mandates, rate design should be  
8 undertaken so that customers are provided the proper power price signals. About half of  
9 APS's residential customer base is still on a tariff that prices energy equally throughout  
10 the day, thus these customers contribute to the solar "duck curve". Mandatory TOU rates  
11 would provide the incentive for residential customers to shift load from peak to off peak  
12 hours to better match solar generation.

13 Any thorough review of the current REST mandate, and any proposal to change the  
14 existing targets, must include a comprehensive review of the potential costs and economic  
15 impacts to the entire state economy associated with moving Arizona towards a more  
16 "modernized" generation system based on renewable energy. If power costs outweigh the  
17 social benefits associated with cleaner energy, the majority of industrial and commercial  
18 customers will begin to migrate to those states where electricity is more cost-effective.

## 19 II. Resource and Transmission Planning.

20 AECC supports continued utilization of the IRP process to identify least-cost, best-  
21 fit resources to meet customer demand. AECC is concerned that dramatically increasing  
22 clean energy mandates in Arizona will unduly constrain planning options and have a  
23 detrimental impact on affordability. At the same time, AECC supports providing  
24 customers with options, such as acquiring alternative generation (including renewable  
25 generation if they so choose) via optional buy-through or opt-out programs. To that end,  
26 AECC believes that the role of buy-through or opt-out programs should be included in the

1 IRP framework as a means to alleviate the need to acquire new utility generation capacity.

2 To the extent existing fossil fuel generation is shut down, the replacing solar  
3 generation will not likely be located to use existing transmission facilities, thus requiring  
4 additional transmission construction.

5 III. Battery Storage.

6 AECC believes that the goal of 3,000 MW of energy storage is likely excessive and  
7 not cost effective. For perspective, the California Public Utilities Commission has set an  
8 energy storage target of 1,325 MW total for its three investor-owned utilities (Pacific Gas  
9 and Electric Company, Southern California Edison, and San Diego Gas & Electric)  
10 installed by 2024, plus an additional 500 MW of distributed energy storage. The Energy  
11 Modernization Plan's goal of 3,000 MW of energy storage would exceed California's  
12 total target by over 60%, despite the fact that APS's, TEP's, and SRP's combined peak  
13 loads are less than 40% those of California's IOUs.

14 As a result of solar regulatory policy in California, mid-day solar prices are  
15 sometimes negative, prompting the additional regulatory solution of battery storage. This  
16 is not a cost effective regulatory model and should be avoided in AZ.

17 The integration of utility-scale battery storage within a grid system can be more  
18 effective in a competitive market due to the numerous income streams available to its  
19 owner. For instance, when paired with a renewable generation facility (e.g. solar), battery  
20 storage can provide frequency regulation services that is valuable to the transmission  
21 owner or independent system operator. In a competitive ancillary services market, the  
22 system's capacity can be bid into the market to respond to price signals when peak  
23 demand is unlikely to be met.

24 A recent study, recommends that regulators "Open-up competitive markets for  
25 ancillary services to multiple technologies rather than only sourcing from large generators,  
26 thereby allowing storage operators to obtain additional sources of revenue for different

1 services provided, enabling financial feasibility,” among other operational practices and  
2 regulatory changes “that can enable better battery storage systems and foster the  
3 transformation of power systems into more resilient, clean and technologically diverse  
4 grids.”<sup>1</sup> Clearly, expanding market opportunities and allowing battery storage operators  
5 to enhance the efficiency and overall reliability of the transmission grid can be a key to  
6 reducing the cost in battery storage technology.

7 Battery life is around 7 years, whereas solar panels and fossil fuel plants last 20  
8 years or more. This needs to be considered in any economic evaluation.

9 IV. Electric Vehicle (“EV”) Infrastructure.

10 AECC opposes any policy that would allow regulated utilities to rate-base  
11 investments made in EV infrastructure. Utilities that own charging stations have a  
12 competitive advantage over private sector participants, such that their entry into the  
13 marketplace would deter private companies from successful continued investment and  
14 development in this area. For this reason, many public utility commissions have been  
15 reluctant to allow rate-basing of EV infrastructure. For instance, in Colorado, while  
16 regulated utilities can own and operate charging stations, they are prohibited from  
17 recouping any costs associated with purchasing or maintaining EV infrastructure from  
18 their ratepayers.<sup>2</sup> Recently introduced Colorado Senate Bill No. 216 unsuccessfully  
19 attempted to enable regulated utilities to rate-base EV infrastructure from all customers,  
20 without capping the amount of money that utilities can recover for such projects.<sup>3</sup>  
21 Additionally, last year the Missouri Public Service Commission determined that it lacks

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23 <sup>1</sup> Emerging Storage Trends and Opportunities in Emerging Markets, Commissioned by IFC and ESMAP,  
2017.

24 <sup>2</sup> Colorado House Bill No. 12-1258, “Concerning Regulation of Public Utilities in Terms of  
25 Alternative Fuel Vehicles” (2012).

26 <sup>3</sup> Colorado Senate Bill No. 18-216, “Alternative Fuel Vehicles Public Utilities” (2018). As of March 27,  
2018, consideration of this bill was postponed indefinitely.

1 the requisite jurisdiction to regulate the ownership and operation of electric charging  
2 stations.<sup>4</sup> As such, while Missouri regulated utilities can enter into the EV marketplace,  
3 utilities cannot own and operate charging stations as regulated monopolies or recoup EV  
4 infrastructure costs from their customers. Similarly, in 2015, the Indiana Utility  
5 Regulatory Commission ruled that ratepayers' funds should not be used to support  
6 charging stations that would be owned by a private company.<sup>5</sup> AECC recommends that  
7 the ACC should likewise conclude that it lacks the jurisdiction to regulate EV  
8 infrastructure, thereby prohibiting regulated utilities from recovering costs associated with  
9 their ownership and operation of charging stations from customers.

10 In the alternative, if the ACC decides to permit regulated utilities to recoup EV  
11 infrastructure costs from ratepayers, AECC believes that such costs should only be borne  
12 by those who directly benefit from EV charging stations (i.e., customers who own and  
13 plug in electric vehicles). To allow regulated utilities to recover EV infrastructure costs  
14 from all classes of customers, including those who have no use for such infrastructure,  
15 will exacerbate cost shift concerns and unfairly penalize customers who prefer to utilize  
16 conventional transportation methods.

17 Moreover, if utilities are allowed to rate-base EV infrastructure, the ACC should  
18 condition such approval with limitations, including establishing a cap on the amount of  
19 costs that utilities may recover from these projects. In 2015, the state of Washington  
20 adopted legislation allowing regulated utilities to make investments in EV infrastructure  
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22 <sup>4</sup> Missouri Public Service Commission, *In the Matter of the Application of Union Electric Company d/b/a/  
23 Ameren Missouri for Approval of a Tariff Setting a Rate for Electric Vehicle Charging Stations*, Order No.  
ET-2016-0246 (Apr. 19, 2017).

24 <sup>5</sup> Indiana Public Utility regulatory Commission, *Verified Petition of Indianapolis Power & Light  
25 Company, an Indiana Corporation, For Approval of Alternative Regulation Plan For Extension Of  
26 Distribution And Service Lines, Installation Of Facilities And Accounting And Rate Making of Costs  
Thereof For Purposes Of The City Of Indianapolis' And Blueindy's Electric Vehicle Sharing Program  
Pursuant To Ind. Code § 8-1-2.5-1 Et Seq.*, Cause No. 44478 (Feb. 11, 2015).

1 and to rate-base expenditures for charging stations as long as the increase in rates is less  
2 than 0.25%.<sup>6</sup> Likewise, in 2012, Oregon’s Public Utilities Commission ruled that  
3 regulated utilities are only able to own and operate charging stations as long as there are  
4 no non-utility, private sector entities that are capable of providing charging stations in  
5 order to prevent impeding private sector innovation and development within the  
6 marketplace.<sup>7</sup> The Oregon PUC further ruled that regulated utilities will only be able to  
7 rate-base investments made in EV infrastructure if they make a “compelling” case that  
8 such rate base expenditures on charging stations will provide a benefit to all customers.

9 AECC proposes that if the ACC rules that regulated utilities may own and operate  
10 charging stations, and rate-base such investments, that the ACC make approvals on a  
11 case-by-case specific basis, closely scrutinizing individual plans of regulated utilities.  
12 The ACC should only authorize regulated utilities to fund their investments in owning and  
13 operating charging stations from ratepayers if there is no private sector participant who is  
14 capable of providing such infrastructure and services. Based on data from the U.S.  
15 Department of Energy’s Alternative Fuels Data Center, there are over 100 public charging  
16 stations in Phoenix, owned and operated by companies such as Blink Charging and  
17 ChargePoint. Clearly, the market is already providing this service.

18 Theoretically, infrastructure costs that are incurred to serve a segment of the  
19 population can be allocated and recovered from that segment as part of the ratemaking  
20 process. However, AECC believes that this theoretical outcome is very unlikely to  
21 happen in the case of EV infrastructure. Arizona electric rates (e.g. APS and TEP rates)  
22 already contain significant cross subsidies; for example, non-residential customers are  
23 charged for a significant share of residential costs. AECC is concerned that utility EV

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24 <sup>6</sup> State of Washington House Bill No. 1853, “Encouraging utility leadership in electric vehicle charging  
25 infrastructure build-out” (2015).

26 <sup>7</sup> Oregon Public Utility Commission , *Investigation of Matters Related to Electric Vehicle Charging* ,  
Order No. 12- 013. (Jan. 19, 2012).

1 infrastructure investment would exacerbate the cross-subsidization that is already in rates  
2 and would result in increased rates for all customers. The subsidization of EV owners by  
3 ratepayers without EVs would be inequitable.

4 While AECC believes that recovery of costs associated with owning and operating  
5 charging stations should only be recovered from the class of persons who directly benefit  
6 from their deployment and usage, if the ACC allows regulated utilities to recoup  
7 investment costs from all classes of customers, the ACC should place stringent caps on  
8 the overall amount recoverable to mitigate the potential for substantial cost-shifts among  
9 ratepayers.

10 AECC is aware that TEP and APS have proposed EV charging programs in their  
11 pending DSM Plan proceedings (Docket Nos. E-01933A-17-0250 and E-01345A-17-  
12 0134, respectively) which would add EV infrastructure to rate base in the future. If,  
13 AECC's recommendation notwithstanding, standalone EV infrastructure is included in  
14 rate base, the costs of this service should be allocated to and borne by participating  
15 customers. Prior to utility investment in EV infrastructure, AECC believes that the cost  
16 and benefits should be evaluated using cost effectiveness tests such as the Total Resource  
17 Cost and Ratepayer Impact Measure, including potential increased transmission and  
18 distribution costs.

#### 19 V. Forest Health/Biomass-Related Energy.

20 The integration of biomass energy into Arizona's generation mix should be viewed  
21 within the framework of energy policy, not forest health – a responsibility entrusted to  
22 federal and state land management agencies with expertise in this area. Consequently,  
23 while AECC does believe that forest thinning may provide benefits, it should not be a  
24 mandate that the Commission considers when setting rates. AECC suggests that the  
25 Commission should focus on its primary functions and leave forest health issues to those  
26 federal and state agencies charged with protection of these resources. Regulation was



1 originally required for economic efficiency to avoid power lines down both sides of the  
2 street while utilities directly competed with each other. As a proxy for competition, forest  
3 health is beyond the scope of the original intention of the regulatory framework.

4 VI. Energy Efficiency.

5 Energy efficiency rules do need to be revised. Customers pay for all these  
6 programs. There is no question that these programs save energy, but at what cost? For  
7 example, the utilities generally are paid a 30% administrative fee for EE programs.  
8 Further the utilities are incented with additional ROR when EE goals are exceeded. Does  
9 it really make sense to pay home depot a subsidy to sell LED lights when the subsidy plus  
10 30% plus any bonus for exceeding the utility goal is added to customer's cost by the  
11 utility? Rate design is a better tool for this job. When cost causation is aligned with rates,  
12 third parties can perform the EE functions as the customers will have the proper tools to  
13 manage their own power consumption.

14 VII. Energy Policy Framework.

15 Choice in generation supply is the policy of the state of AZ. In this vein, the  
16 competition rules that were stayed in 2013 should be completed. A competitive market  
17 will provide the means for technological advancements to enter the power market much  
18 quicker than in a regulated generation supply market.

19 If energy mandates are to be continued in AZ, only utilities with a load of 1000  
20 MW and greater should be included in these mandates as these utilities are large enough  
21 to have dedicated staff to affect economic compliance.

22 VIII. Security and Reliability/Resiliency.

23 An RTO would provide the preferred solution for grid security and reliability as  
24 well as better optimize the use of the statewide transmission system.


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RESPECTFULLY SUBMITTED this 23<sup>rd</sup> day of April, 2018.

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