Interruptible Load Resource Option

**Summary**

**I propose an interruptible service rate similar to New Mexico fifth revised rate No. 29, but open to customers with total connected capacity requirements of 50kW (chosen to be larger than 200Amp residential service) or more and an interruptible load of 10 kW or more. Interruptions are limited to one per day of no more than 6 hours, and no more than 100 hours of interruption per year. Under this proposal, EPE can initiate interruptions for any purpose including economic, capacity, or emergency reasons.**

**Because this is a distributed resource, it can be used to deal with overload conditions in specific distribution areas as well as to provide system wide peaking capacity.**

**Rational**

**EPE has experience using interruptible rates as an emergency resource. The proposal simply builds on that base to create a general purpose resource available for capacity and peak needs in addition to emergency needs. Interruptible rates are pollution free.**

**Cost**

**The relationship between the amount of interruptible load and the associated costs is not direct. While the benefit to EPE is expressed in MW of interruptible load, the cost to EPE is dependent not only on the total MW subscribed, but on the power and energy actually used by interruptible customers.**

**As described in rate 29, the demand related cost to EPE is the difference between the demand charge of the customer’s underlying (firm power) rate and the demand charge of the interruptible rate multiplied by (total billing demand minus firm power billing demand). The energy related cost to EPE is the difference between the kWh charge of the customer’s underlying (firm power) rate and the kWh charge of the interruptible rate multiplied by the ratio of interruptible demand to total demand.**

**Based on rate 29 and rate 3 charges, the costs would be approximately $14/kW of monthly interruptible demand and 2.4 cents/kWh of interruptible usage.**

**By adjusting the rates to be charged for interruptible service, the $/kW-yr operating costs and $/MWh energy costs to be used in an IRP Strategist run can be set to most any value. EPE costs (customer savings) will determine the level of customer participation and therefore the total amount of interruptible MW available to EPE; the greater the savings to customers the more customers are likely to participate.**

**As a starting point, I suggest using the rates set out on page 1 of NM rate 29.**

**Limitation on hours (Capacity Factor)**

**Based on data from 2011 through 2014, native system load is within 5% of annual peak less than 30 hours/year. Because EPE does not have a crystal ball, it would be necessary to use more than 30 hours of noticed interruptions to cover all times within 5% of peak. The proposed rate would be limited to 100 hours of interruption per year. This is the same limit as in rate 29 and, if used as a peaking resource, is sufficient to allow operation at all times when load is above 95% of peak as well as at other times for other purposes.**

**The rate would also be limited to 6 hours per day. This is also the same limit as in rate 29 and is sufficient to cover daily summer peak periods. In emergency situations, six hours should be sufficient to bring additional generation on line or make other arrangements to serve load. The limitation in rate 29 of no more than two interruptions per week would not apply in the proposed rate because the rate is intended to be useful for peaking and hot weather resulting in peak loads is likely to occur on multiple successive days.**

**Communication with customers (Scheduling Procedures)**

**EPE has experience scheduling interrupts with current customers. The proposed rate presents a challenge and an opportunity in communicating with a larger number of customers. The challenge is that a larger number of contacts must be made to achieve a given level of load reduction because the average customer will have committed to a smaller interruptible load than is the case under rate 29 and its Texas equivalent. The opportunity is that EPE will have a greater ability to target the load reduction. If the problem to be solved is a localized overload, only interruptible customers in that local area need be interrupted.**

**Implementation**

**EPE may choose to establish different rates for different customers with varying amounts of committed interruptible load, to limit the number of participants with smaller loads if needed to reduce communications needs, and to experiment with different rates to determine what level of customer savings is necessary to attract customers and what level of total interruptible load is economically and operationally attractive.**