Sophie Hayes (12546)
Western Resource Advocates
307 West 200 South, Suite 2000
Salt Lake City UT 84102
801-212-9419
sophie.hayes@westernresources.org

Steven S. Michel
Western Resource Advocates
409 E. Palace Avenue, Unit 2
Santa Fe NM 87501
Telephone No. (505) 820-1590
Email: smichel@westernresources.org

Attorneys for Western Resource Advocates

BEFORE THE PUBLIC SERVICE COMMISSION OF UTAH

In the Matter of the Application of Rocky Mountain Power for Authority to Increase its Retail Electric Utility Service Rates in Utah and for Approval of its Proposed Electric Service Schedules and Electric Service Regulations	Docket No. 20-035-04

PREFILED DIRECT TESTIMONY OF

DOUGLAS J. HOWE

ON BEHALF OF

WESTERN RESOURCE ADVOCATES

September 15, 2020

I. INTRODUCTION AND SUMMARY

Q: Please state your name, employer, position, and business address.

A: My name is Douglas J. Howe. I am an energy policy analyst and am testifying on behalf of Western Resource Advocates (WRA). My business address is 624 E. Alameda St., Unit 16, Santa Fe, New Mexico 87501.

Q: Please describe your work experience and educational background.

A: I currently serve as a Director of the Western Grid Group, a project of the Center for Energy Efficiency and Renewable Technologies, which serves as a consultants and advisors to legislators and regulators throughout the west. I am an appointed member of the Board of Directors of the New Mexico Renewable Transmission Authority. In 2016, I was elected to the inaugural Governing Body of the Western Energy Imbalance Market and served as its Chair and Vice-Chair. In 2011, I was appointed by the governor of New Mexico as a Commissioner on the New Mexico Public Regulation Commission. Prior to that, I served as the Senior Director of the Global Power Consulting Group of IHS CERA, a global energy consulting firm. Previously I was Vice President of Regulatory Policy at GPU, Inc., a multi-national utility company. I have a Ph.D. and M.S. degrees in mathematics from the University of Pennsylvania, and a B.S degree from Kansas State University. I graduated from the Advanced Management Program of the Fuqua School of Business at Duke University. My CV is attached as WRA Exhibit__(DJH-1).

Q: Have you previously testified before the Public Service Commission of Utah ("Commission")?

A: No, this is the first testimony that I present at the Commission. I have previously presented direct testimony at the New Mexico Public Regulation Commission, the Colorado Public Utility Commission, the Arizona Corporation Commission, the Public Utility Commission of Nevada and the Michigan Public Service Commission.

Q: On whose behalf are you testifying today?

A: I'm testifying on behalf of WRA.

Q: What is the purpose of your testimony?

A: I support the Company's proposal to eliminate the third tier energy rate on rate Schedule 1 for residential customers. However, I do recommend an addition to the proposal. With respect to Schedule 1, I agree that phasing out the inclining block rate (IBR) is appropriate, but the Company should also be directed to completely phase out the IBR schedule as the default residential rate and propose a new time-of-use (TOU) rate as the default residential rate at the next general rate case, assuming the completion of necessary metering and billing system upgrades.[1] At the very least, the Company should have a plan in place, by its next rate case, for implementing a residential default TOU rate. As PacifiCorp shifts away from a rate designed to promote efficiency and conservation (i.e.

[1] Pacificorp is in the process of installing advanced metering infrastructure (AMI) capability throughout its Utah service territory, and this capability can be leveraged for a default residential time of use rate. However, according to the Company, at this time, the Company's customer billing system cannot receive billing determinants from the AMI; therefore, in order to deploy advanced rates, such as TOU rates, Pacificorp must replace or upgrade its billing system in addition to updating its metering capabilities. *See, infra*, note 15.

an inclining block rate), it is in the public interest to move toward a more advanced rate design that has both system and customer benefits (i.e. TOU rates).

The Commission should direct PacifiCorp to work with stakeholders, including the Division of Public Utilities, the Office of Consumer Services, and Western Resource Advocates, as well as other interested parties, to evaluate TOU rates and best practices for transitioning to TOU rates, as well as develop a plan for a transition to a residential default TOU rate.

II DISCUSSION – Residential Rate Schedule 1.

Q: Please describe the existing residential Schedule 1.

A: As described by Mr. Meredith,[2] the Company's default residential schedule is a seasonal tiered rate. The energy rates are shown in Table DJH-1.

Table DJH-1: Existing Schedule 1 Energy Rates

Summer: May through September	Price (¢/kWh)
First 400 kWh	8.8498
Next 600 kWh	11.5429
Over 1000 kWh	14.4508
Winter: October through April	Price (¢/kWh)
First 400 kWh	8.8494
Over 400 kWh	10.7072

[2] Direct Testimony of Robert M. Meredith, UPSC Docket No. 20-035-04, 26:540.

There is, in addition, a customer charge of $6.00 per month for single phase customers and $12.00 per month for three-phase customers. There is a minimum monthly bill of $8.00 for single-phase customers and $16.00 per month for three-phase customers[3]. There are also a number of adjustments that can be applied (i.e. Schedules 91, 94, 98, 193, 196 and 197).[4]

Q: What changes is the Company proposing for Schedule 1?

A: The company proposes to differentiate the customer charge into a single-family charge of $10.00 per month, an increase of $4.00 per month over the current charge, and a multi-family charge of $6.00 per month, as it is currently. The Company states that this differentiation is justified by the higher per-customer fixed costs of customer service, billing and local infrastructure to serve a single-family residence than for a family that resides in a multi-family residence.[5] The Company also proposes certain changes to adjustors contained in Schedules 94,[6] 98[7] and 197.[8] The Company also proposes eliminating the minimum monthly charge as being redundant with the customer charge.[9] However, my testimony will address only the energy charges, which the Company proposes to reduce to two-tiers in the summer, as shown in Table DJH-2.[10] The Company

[3] https://www.rockymountainpower.net/content/dam/pcorp/documents/en/rockymountainpower/rates-regulation/utah/rates/001_Residential_Service.pdf
[4] https://www.rockymountainpower.net/content/dam/pcorp/documents/en/rockymountainpower/rates-regulation/utah/rates/080_Summary_of_Effective_Rate_Adjustments.pdf
[5] Direct Testimony of Robert M. Meredith, 19:412.
[6] *Ibid*, 66:1348.
[7] *Ibid*, 67:1365.
[8] *Ibid*, 13:275.
[9] *Ibid*, 25:522.
[10] *Ibid*, 32:629.

has also proposed to designate the month of May as a winter month, in contrast to its current summer designation; however, I have not taken a position on this proposal.

Table DJH-2: Proposed Schedule 1 Energy Rates

Summer: June through September	Price (¢/kWh)
First 400 kWh	9.5280
Over 400 kWh	12.2211
Winter: October through May	**Price (¢/kWh)**
First 400 kWh	8.4319
Over 400 kWh	10.8152

Mr. Meredith also explains that the rate differentials were based on the load-weighted averages of the 15-minute market (FMM) Western Energy Imbalance Market (EIM) PacifiCorp East (PACE) electricity load aggregation point (ELAP).[11]

Q: Why is the Company proposing to eliminate the third summer tier and move May from the summer to the winter season?

A: Mr. Meredith has explained that an IBR design has a number of flaws that make it unsuitable as a residential default rate.[12] It can be inferred from his testimony that eliminating the third tier would be a first step in the eventual elimination of the IBR design.[13] Mr. Meredith also explains that the PACE EIM ELAP load-weighted price is

[11] Direct Testimony of Robert M. Meredith, 32:638.
[12] *Ibid*, 27:559 – 31:619.
[13] *Ibid*, 31:625.

the lowest in May of all the months and therefore May should be grouped with the winter months.

Q: Do you agree that the IBR design is flawed as described by Mr. Meredith?

A: Yes, I generally agree that it is flawed for most of the reasons laid out by Mr. Meredith. From my perspective, the main problem with IBR is that it is a blunt tool that only incentivizes conservation for the sake of conservation. Historically, it made sense to conserve for the sake of conservation because utility generation portfolios relied almost exclusively on resources that were capital intensive (coal and nuclear), exposed to extreme price volatility (gas), were limited (hydro) or had significant environmental impacts (all of the previous). As renewable resources, especially wind and solar, become a larger portion of utility resource portfolios, conservation for the sake of conservation is not necessarily the right message to consumers. For example, the IBR design would not, and cannot, motivate beneficial electrification applications.

Q: What do you mean by beneficial electrification?

A: In this context, I am using the term beneficial electrification to mean the use of electricity to offset another form of energy which results in a net release of fewer harmful emissions such as NOx, SOx, CO, CO_2, particulates, mercury, lead, and ozone. A prime example would be electric vehicles, which would be disincentivized under an IBR design. Depending upon the overall emissions profile of the utility, it could also disincentivize other applications like efficient electric heat pumps and commercial applications like electric versus gas chillers.

As stated in the testimony of WRA witness Aaron J, Kressig,[14] WRA advocates for beneficial electrification, particularly transportation electrification, because it is critical for improving Utah's air quality (particularly along the Wasatch Front) and for reducing climate impacts.

Q: What do you propose?

A: I would advise that the Commission direct the Company to eliminate the second tier of the residential IBR, effectively making Schedule 1 a flat, seasonal rate, at its next general rate case (GRC). I would also advise that the Commission direct the Company to file a residential time-of-use (TOU) rate at that time. The Company has stated that it is in the process of implementing AMI capability throughout its system and that the CSS system would need significant changes in order to accommodate "advanced" rates.[15] It is unclear from the Company's response what constitutes an "advanced" design for purposes of the CSS and whether that precludes all TOU rates or not. Therefore, I would recommend that a residential TOU rate become the default rate when the capability to manage widespread TOU rates is implemented in the Company's CSS, if it currently does not possess that capability. In that event, a flat, seasonal rate could remain as an "opt-in" residential rate.

[14] Direct Testimony of Aaron J. Kressig, 6:102 – 9:155.
[15] Response to WRA Data Request 3.5, attached as WRA Exhibit__(DJH-2).

Q: Please explain why a TOU rate would be a better option for residential customers?

A: TOU rates are a better option than an IBR for influencing consumption since they provide a more nuanced approach to rate design and provide more levers to influence consumption in parallel to state policy. Time-varying rates range the spectrum from purely seasonal rates (e.g. summer vs. winter rates) to an hourly rate based on real-time market signals. Consumer rates can therefore be designed to meet specific objectives, such as designing higher rates for hours, months or seasons in which the marginal production cost is higher; the average or marginal emissions rate is higher; or, the demand is higher.

Q: Are there disadvantages to a TOU rate compared to an IBR?

A: Except for seasonal rate designs, the main disadvantage of a TOU rate is the need for a more sophisticated (i.e. more expensive) meter that records not just how much electricity was consumed between meter reads, but when it was consumed in that month. This has been the main historic reason that TOU rates have been disfavored compared to IBR. There is also potential for inequitable impacts to customers based on their ability to respond to price signals, but this is the main reason that a flat, seasonal rate should be maintained on an opt-in basis.

Q: Do other utilities use time-varying rates as the default rate for customers?

A: It is not yet commonplace. Many utilities have a default “basic” rate schedule that is either a single kWh rate for all electricity consumed, possibly on a seasonal basis, or an

IBR, but also have several opt-in TOU rate options.[16] However, some utilities and regulatory commissions are considering TOU rates as the default. For example, Xcel/Colorado (i.e., the Public Service Company of Colorado), has a pending case[17] which would implement a default TOU rate, with an opt-out to a basic rate, when that utility's AMI implementation is completed in 2022-23. I would anticipate that within the next several years, many more utilities, especially in the West, will be implementing similar residential rate schedules.

Q: Do you have recommendations regarding TOU rate design?

A: Yes. To implement a residential TOU rate design, it is necessary to segment the 8760 hours of an average year into "periods," each of which will have a different rate associated with it. Determining which hours go into which periods depends upon the objective(s) that the TOU rate is influencing through a price signal: higher rates in a period tell the customer to use less electricity in that period, lower rates in a period tell the customer to shift usage into that period whenever possible. Note that a TOU rate can induce both conservation and usage shifting, whereas an IBR induces only conservation. High rate periods are assigned a "peak" price, low rate periods an "off-peak" price. Most TOU rates differentiate peak and off-peak prices by season. Many TOU rate designs also incorporate a "shoulder" period, which is mid-priced between peak and off-peak rates. A few TOU rate designs have also begun to incorporate "super-peak" prices, which can be quite high but last for only 1-2 hours typically. Super-peak pricing can be useful in

[16] See for example: Arizona Public Service Company, Tucson Electric Power Company, Public Service Company of New Mexico, Salt River Project, Xcel/Minnesota, Xcel/Wisconsin to name a few.
[17] Colorado Public Utility Commission, Docket No. 19AL-0687E.

managing very high load periods when the system could be under stress. Sometimes super-peak pricing is not assigned to a fixed period but rather is called by the utility on an as-needed basis.

Q: What are some examples of periods that could be employed in a TOU rate design?

A: Most often, the peak zone coincides with the hours during which the utility is deploying the most expensive resources. Historically, this has also coincided with the hours during which the utility's load is at its highest because utilities have historically dispatched resources on a merit-basis, i.e. increasing from lowest to highest cost resources. However, as renewable resources have become a larger portion of utility resources, it is not necessarily the case that the most expensive resources (in terms of $/MWh) are deployed during the highest load period.[18] Therefore, a TOU rate that is designed with higher rates in the peak load periods may not look the same as a TOU rate that is designed with higher rates in the peak marginal cost periods (see Figures DJH-1, DJH-2, DJH-3, below, for example). A further refinement is possible if the TOU rate is designed with peak periods coinciding with high emission hours. This is an approach being considered by the Colorado Public Utility Commission.[19]

A "heat map" is often used to determine the hours to be included in each pricing zone. Figures DJH-1, DJH-2 and DJH-3 are heat maps for load, price and emissions, respectively, using EPA and EIM data for the PacifiCorp East balancing area authority.

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[18] For example, solar production is typically highest during mid-day when loads may also be highest. However, the solar production tends to reduce the marginal unit to a less expensive resource than would be used in a system with no solar production.

[19] Colorado Public Utility Commission, Docket No. 19AL-0687E, Public Service Company of Colorado.

In each figure, the redder the month and hour, the higher the load, price or emissions, respectively.[20]

Figure DJH-1: Heat Map of Gross Load (MW)

Houring Starting	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	2962	2706	2357	1940	1874	2329	2920	3023	2744	2625	2669	3050
1	2889	2619	2291	1827	1772	2201	2801	2917	2655	2582	2593	2985
2	2854	2585	2252	1754	1705	2098	2704	2825	2590	2553	2557	2971
3	2841	2586	2249	1748	1688	2053	2654	2775	2554	2577	2551	2974
4	2870	2623	2308	1858	1782	2104	2688	2815	2636	2637	2597	3001
5	2922	2717	2412	2037	1951	2199	2749	2926	2765	2720	2671	3051
6	2994	2827	2539	2195	2032	2165	2612	2906	2822	2798	2768	3099
7	3092	2925	2579	2101	1908	2014	2573	2830	2770	2840	2820	3125
8	3123	2907	2388	1832	1766	1929	2558	2730	2568	2703	2746	3150
9	3018	2736	2144	1682	1720	1992	2694	2806	2440	2491	2601	3056
10	2929	2612	1997	1593	1704	2085	2889	2965	2506	2377	2516	2974
11	2845	2549	1914	1547	1694	2216	3065	3095	2595	2346	2483	2914
12	2748	2479	1864	1546	1708	2353	3169	3187	2694	2390	2457	2858
13	2692	2425	1833	1557	1777	2518	3288	3305	2817	2411	2458	2802
14	2674	2406	1840	1567	1813	2641	3380	3395	2871	2443	2479	2798
15	2742	2430	1899	1630	1872	2724	3447	3476	2946	2480	2565	2859
16	2923	2550	1976	1706	1965	2760	3471	3505	3023	2631	2794	3068
17	3143	2794	2176	1880	2076	2856	3508	3548	3157	2873	2995	3291
18	3305	3070	2539	2195	2292	2999	3557	3599	3276	2985	3083	3419
19	3327	3183	2760	2469	2567	3184	3597	3602	3286	3000	3082	3427
20	3309	3161	2763	2537	2665	3177	3555	3547	3217	2968	3071	3393
21	3246	3103	2668	2437	2554	3017	3444	3460	3129	2899	2987	3336
22	3117	2966	2577	2334	2383	2853	3325	3361	3030	2826	2859	3223
23	3061	2857	2420	2108	2077	2562	3118	3137	2859	2682	2785	3164

[20] Explanatory Note on Figure Data: the data used in Figures DJH-1, DJH-2 and DJH-3 excludes weekends. The emissions and gross load data were obtained from the EPA Air Markets Program Data, for units owned/operated by PacifiCorp and PacifiCorp Generation, for the dates 11/1/16 to 10/31/19, for the states of Utah and Wyoming. The EIM data was obtained from Exhibit RMP___(RMM-8) – Large Customer TOU Re-Design, Tab EIM 15min).

Figure DJH-2: Heat Map of EIM ELAP PRICE

Hour Starting	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NIOV	DEC
0	24.23	35.87	19.59	18.87	18.85	20.82	25.10	26.33	23.12	24.28	25.12	26.61
1	22.77	27.57	19.75	17.77	16.52	19.41	22.45	24.42	22.01	22.94	23.84	25.87
2	22.72	27.66	18.91	16.85	14.98	18.47	22.26	22.62	21.15	22.22	23.28	25.28
3	23.69	29.88	19.57	17.27	15.28	17.91	21.18	21.88	20.95	22.52	24.72	25.99
4	25.18	35.45	24.37	20.36	18.16	19.48	22.07	22.75	22.13	24.30	26.39	27.89
5	29.59	50.12	34.04	39.55	24.31	21.60	23.93	26.52	26.86	30.35	33.41	31.72
6	36.23	63.66	38.22	35.61	24.37	21.05	21.57	26.46	29.07	35.65	36.69	36.77
7	38.01	54.61	36.95	28.90	22.76	19.22	23.06	24.59	27.26	47.72	41.16	45.30
8	29.58	36.09	25.46	23.58	18.61	17.77	22.98	23.68	23.67	29.33	29.07	42.48
9	26.83	29.75	18.35	19.72	17.38	16.89	23.84	24.29	22.44	24.31	24.66	30.70
10	25.11	25.99	15.79	17.09	17.76	18.75	28.43	25.98	22.31	22.13	23.02	27.62
11	23.03	23.54	13.42	15.59	15.41	19.43	27.72	26.65	22.29	21.51	22.18	25.06
12	20.81	20.78	19.60	17.50	15.69	19.68	29.39	28.77	22.53	22.07	21.43	23.82
13	20.87	21.68	10.41	14.95	17.64	21.60	35.53	34.59	24.88	22.97	20.79	23.66
14	21.43	19.07	10.32	15.03	16.45	23.33	39.32	40.03	25.41	23.08	22.62	25.20
15	24.26	22.95	11.80	16.34	17.30	24.73	45.21	53.78	29.67	24.39	29.04	28.31
16	31.46	34.01	14.39	15.59	20.83	36.14	37.11	54.17	39.88	28.71	43.19	37.02
17	41.11	62.29	22.72	19.42	19.44	31.84	40.22	72.65	49.57	56.32	41.48	40.20
18	37.38	71.73	31.82	33.38	30.51	52.18	48.43	86.95	73.53	70.37	36.45	38.63
19	34.91	51.11	43.64	61.05	40.27	53.36	50.99	97.53	74.82	46.82	34.00	35.94
20	33.43	46.92	34.70	57.23	42.86	38.77	39.91	56.64	32.03	36.16	32.74	35.35
21	30.33	39.33	27.65	28.28	34.99	27.55	32.97	40.13	28.61	32.89	30.11	33.61
22	27.35	35.40	25.60	24.94	23.39	28.58	31.13	33.30	26.47	31.38	31.47	30.47
23	24.73	34.19	22.36	21.76	23.73	23.62	27.97	28.13	24.68	25.83	27.87	27.34

Figure DJH-3: Heat Map of Emissions (CO2 tons)

Houring Starting	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0	2835	2588	2266	1867	1789	2258	2768	2855	2627	2515	2577	2910
1	2784	2536	2218	1773	1704	2161	2671	2762	2546	2480	2516	2887
2	2768	2513	2184	1711	1643	2073	2578	2683	2485	2454	2486	2884
3	2756	2514	2181	1699	1629	2032	2533	2634	2452	2477	2480	2888
4	2776	2550	2235	1792	1713	2081	2570	2672	2536	2534	2528	2910
5	2815	2630	2326	1963	1883	2178	2631	2781	2665	2619	2601	2951
6	2872	2721	2437	2100	1947	2139	2503	2757	2717	2684	2686	2984
7	2940	2806	2465	2007	1830	1989	2471	2691	2674	2722	2732	2998
8	2961	2788	2289	1748	1705	1920	2460	2605	2477	2592	2658	2999
9	2872	2629	2067	1621	1663	1981	2582	2670	2350	2384	2516	2917
10	2780	2512	1937	1544	1651	2069	2743	2810	2407	2277	2436	2839
11	2705	2462	1864	1510	1640	2168	2862	2911	2477	2246	2407	2780
12	2608	2398	1820	1512	1654	2259	2942	2976	2544	2285	2381	2727
13	2561	2344	1793	1521	1716	2366	3034	3069	2642	2292	2380	2665
14	2541	2319	1791	1529	1736	2442	3099	3138	2677	2302	2391	2655
15	2597	2329	1825	1570	1771	2496	3140	3184	2729	2325	2440	2691
16	2742	2416	1873	1620	1819	2517	3152	3199	2793	2454	2611	2849
17	2923	2617	2039	1760	1901	2599	3183	3232	2913	2668	2776	3024
18	3054	2853	2365	2040	2086	2729	3233	3277	3030	2773	2845	3119
19	3078	2950	2569	2292	2335	2902	3276	3282	3035	2790	2847	3128
20	3063	2936	2567	2350	2423	2895	3231	3233	2971	2767	2840	3107
21	3025	2888	2481	2260	2325	2757	3131	3165	2894	2710	2775	3082
22	2936	2780	2412	2181	2198	2644	3051	3092	2835	2666	2697	3010
23	2898	2699	2298	1999	1956	2417	2900	2927	2712	2550	2658	2985

Q: How should the actual rates in each TOU pricing zone be determined?

A: Given the revenue requirement for the class and the actual or projected consumption (kWh) in each TOU period, the next step is to fix the rate ratios between each period. For example, if this was a simple TOU design with just a peak and off-peak rate, one would fix the Peak to Off-Peak (POPP) ratio. If there was to be a Shoulder zone, then typically that rate would be set mid-way between Peak and Off-peak. Once these parameters are set, it is a straightforward algebraic exercise to determine the actual rates for each period.

Q: Are there best practices in TOU design that should be incorporated?

A: There are a number of publications that advocate certain best practices, among them are two that I recommend, one each from the Regulatory Assistance Project (RAP)[21] and Rocky Mountain Institute (RMI).[22] However, the main points are these: 1) overly complex designs with many periods and rates are difficult for consumers to comprehend and respond to; 2) the larger the POPP ratio, the stronger the consumer response; and 3) the fewer hours that are included in the Peak zone, the more ability the consumer has to respond to the price signal.

How large should the POPP be? For example, Arizona Public Service offers a TOU-E rate (one of several TOU rates) with a summer POPP ratio of 2.24; Pacific Gas and Electric offers E-TOU-B rate with a summer POPP ratio of 1.35; and Salt River Project offers an E-13 rate (one of several TOU rates) with a summer POPP ratio of 2.88. In general, I would recommend a POPP ratio of at least 2.5, preferably 3.0.

[21] Lazar, J., Global Best Practices in Residential Electric Rate Design, Regulatory Assistance Project, May 2013, https://www.raponline.org/wp-content/uploads/2016/05/rap-lazar-globalratedesign-camunicipalratesgroup-2013-may.pdf.

[22] James Sherwood et al., A Review of Alternative Rate Designs: Industry experience with time-based and demand charge rates for mass-market customers, Rocky Mountain Institute, May 2016, https://rmi.org/wp-content/uploads/2017/04/A-Review-of-Alternative-Rate-Designs-2016.pdf, at 26.

Q: Please summarize your recommendations.

A: In summary, I am recommending that the Commission approve the Company's proposed changes to the Schedule 1 energy rates to eliminate the third tier. I am further recommending that at the next GRC, if the AMI project is completed at that point, the Schedule 1 rate become an optional flat, seasonal rate and that a TOU rate be implemented as the default residential rate. If the AMI project is not completed by the time of the next GRC, then I would advise that a flat, seasonal Schedule 1 rate be the default residential rate and that the TOU rate be offered as an option to those customers with the AMI installed.

In recognition of the fact that the Company's billing system may not be capable of calculating or billing TOU rates, my alternative recommendation is that when PacifiCorp files its next general rate case, the Company should have a plan for implementing a residential default time of use rate.

In either case, the introduction of a residential TOU rate should be developed in consultation with the Division of Public Utilities, the Office of Consumer Services, and other stakeholder, including Western Resource Advocates.

Q: Do you have any other comments?

A: There is policy support for transportation electrification in Utah, which WRA witness Aaron J. Kressig discusses this in his direct testimony.[23] As Utah moves proactively toward widespread EV adoption, it will be necessary to design electricity rates that

[23] Direct Testimony of Aaron J. Kressig, 8:130 – 10:180.

encourage smart charging and other behavioral changes that will keep system costs low for all ratepayers.

Q: Does this conclude your testimony?

A: It does.