High Density Load Rate
Public Rate Hearing Continued

February 16, 2016

P.U.D.
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Hearing Overview to Date

- Feb. 1, 2016 – Hearing opened, staff introduced additional rate and implementation options, heard public opinion for and against the initial rate proposal
- Feb. 3, 2016 – Hearing continued, Emerging Technology Community Forum, heard public opinion for and against proposed rate action
- Feb. 16, 2016 – Hearing continued, staff to present impact of a hypothetical 100 aMW HDL load growth

Agenda

- Review rate options presented Feb. 1
- Compare rate options – no action required
- Public Comment
- Moratorium discussion and action

Rate Options Meeting Board Guidance of Achieving Economic/Rate Neutrality for Existing Customers

1. *Full Value Recovery for District - Initial staff proposal: (Mitigate risk of revenue loss to District)*
    - Market cost for Energy (with a floor at production cost) + full recovery for customer & delivery costs
    - ~5.036 cents/KWh [1] [2]

2. *Cost Recovery Over Time: (Mitigate risk of increased rate pressure for existing customer classes)*

    a) No sharing of market benefit/risk - District holds market risk: Production cost for Energy + full recovery for customer & delivery costs
    - ~4.57 cents/KWh [2] + upfront cost

    b) Sharing of market benefit/risk - Customer holds market risk: Higher of production cost or market cost for Energy + current customer & delivery blended rate
    - ~3.99 cents/KWh [1] [2] + upfront cost
    - Supply component to be adjusted periodically (not more frequently than annual)
    - To be paired with Contract

[1] Rate will be variable based on market – currently based on an Energy charge of 3.21 cents/KWh
[2] Following rate design, average per KWh figures presented may vary by customer depending on individual usage and load profile

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How do we compare rate options?

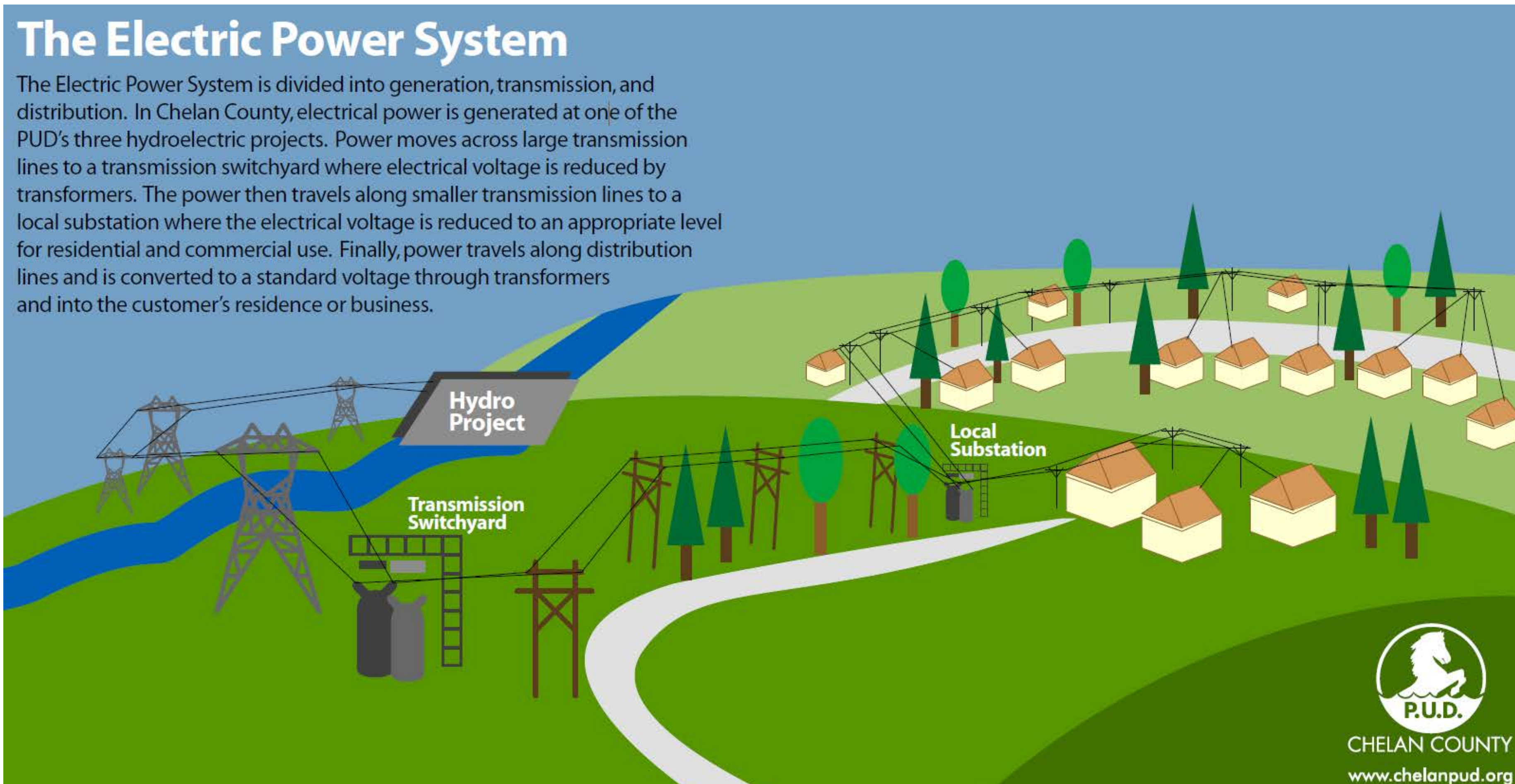
- An illustrative example: 100 aMW load growth
  - General operational impacts
  - System specific impacts
    - Transmission, Substation, Distribution
  - Financial impacts
  - Resulting risks and variability of rate options

Assumptions for 100 aMW Analysis

- Assumes growth of HDL load after lifting of moratorium
- Assumes build-out of system over a 5-year-period to accommodate additional load
- Assumes costs are consistent with historic operations and maintenance expenses and actual or planned capital construction for similar capital assets
- Assumes the new HDL loads vary in size and location throughout the service area. A centralized approach could reduce cost however customer location choice would be limited and would not apply to existing services
- Assumes HDL loads have high load factor
- Values presented provide a rough estimate for purpose of comparison

General Operational Impacts

- Increased demand at one level of the system requires increased capacity at all levels of the upstream system



General Operational Impacts (cont)

- Increasing capacity and line miles requires both capital investment and ongoing operation and maintenance expenses, such as outage restoration, asset replacements, vegetation management, locating, tools and equipment, regulatory compliance, etc.

- For the purpose of this exercise, our current loading is 185 aMW, increasing this by 100 aMW is a 54% increase. It is assumed all customer and capacity expenses will increase linearly at 54% as well. This includes direct costs only, additional costs for management, administration, etc. are not included.

General Operational Impacts (cont)

- Increasing customer base requires additional customer service time, including payment processing, customer inquiry, changes in services, metering, etc.
- Infrastructure siting of transmission lines, substations, and other equipment is a substantial community effort
- Permitting, procurement and construction may not be feasible in a 5-year timeframe (lead time on a transformer alone is 18 months)

Transmission Impacts

- 5-year Capital Requirement
  - ~$6M for switchyard addition
  - ~$10M for increased transmission line capacity
- Operations and Maintenance
  - ~$4.5M of additional direct expenses annually
- Staffing Increases
  - ~8 full-time positions: two engineering and associated support staff, one 4-person line crew and two wiremen
  - Temporary construction positions

Note: Values presented provide a rough estimate. Actual costs would vary. Cost of capital not expressly addressed in these values.

Substation Impacts

- 5-year Capital Requirement
  - ~$19M for new substations based on location of load
- Operations and Maintenance
  - ~$1M of additional direct expenses annually
- Staffing Increases
  - ~5 full-time positions: one 3-person substation wiremen crew, two engineering and associated support staff
  - Potential temporary construction positions

Note: Values presented provide a rough estimate. Actual costs would vary. Cost of capital not expressly addressed in these values.

Distribution Impacts

- 5-year Capital Requirement:
  - ~$20M for reconductoring and addition to distribution lines
  - Customer funded line extensions, meter and transformer installation, direct improvements of existing facilities to meet individual loads
- Operations and Maintenance:
  - ~$9M of additional direct expenses annually
- Staffing Increases
  - ~32 full-time and temporary crew positions: eight 4-person crews, initially focused on build-out, four crews retained for maintenance
  - ~10 full-time engineering, project management and associated support staff and servicemen

Note: Values presented provide a rough estimate. Actual costs would vary. Cost of capital not expressly addressed in these values.

System Impacts Summary

FTE= Full-time equivalent employee O&M = Operations and Maintenance	**Impacts**
Transmission	-Capital: ~$16M -O&M: ~$4.5M per year -Staffing: ~8 FTE plus temporary construction positions
Substations	-Capital: ~$19M -O&M: ~$1M per year -Staffing: ~5 FTE plus temporary construction positions
Distribution	-Capital: ~$20M -O&M: ~$9M per year -Staffing: ~26 FTE plus 16 temporary construction positions
Total direct impact (indirect impacts not included)	**-Capital: ~$55M** **-O&M: ~$14.5M per year** **-Staffing: ~39 FTE plus 16 or more temporary construction positions**

Note: Values presented provide a rough estimate. Actual costs would vary. Cost of capital not expressly addressed in these values.

District Impact of 100 aMW Load Increase - Details

An illustrative example for purpose of rate comparisons

	2017	2018	2019	2020	2021	2022 and beyond
Assumed cumulative new load	20 aMW	40 aMW	60 aMW	80 aMW	100 aMW	100 aMW
Customer and Delivery Net Impact (rate revenue less annual cost)						
At current blended rate (0.78 cents/KWh)	$ (12.5M)	$ (14.0M)	$ (15.6M)	$ (17.1M)	$(18.7M)	$ (7.7M)
At full cost recovery rate (1.83 cents/KWh)	$ (10.7M)	$ (10.4M)	$(10.1M)	$ (9.8M)	$ (9.5M)	$ 1.5M
Energy Net Impact (Wholesale vs. Retail)						
At current blended rate (2.06 cents/KWh)	$ (2.0M)	$ (4.0M)	$ (6.0M)	$ (8.0M)	$(10.0M)	Market Dependent
At market energy rate (3.21 cents/KWh)	$ 0	$ 0	$ 0	$ 0	$ 0	Market Dependent
At production cost rate (2.74 cents/KWh)	$ (0.8M)	$ (1.6M)	$ (2.5M)	$ (3.3M)	$ (4.1M)	Market Dependent

Note: Values presented provide a rough estimate. Actual costs would vary. Cost of capital not expressly addressed in these values.

District Impact of 100 aMW Load Increase - Summary

An illustrative example for purpose of rate comparisons	Capital Investment Risk	Total Annual Revenue Impact after Build-out**		
		Expected	Ranges under Market Variations***	
			Low Market	High Market
Current Rates	$55M risk			
Rate option #1 (Market cost energy with production cost floor + full recovery for customer and delivery cost)	$55M risk or $0 with full upfront cost recovery*			
Rate option #2a (Production cost energy + full recovery for customer and delivery cost)	$0 with full upfront cost recovery*			
Rate option #2b (Higher of market cost or production cost energy + current customer and delivery blended rate)	$0 with full upfront cost recovery*			

Note: Values presented provide a rough estimate. Actual costs would vary. Cost of capital not expressly addressed in these values.

* $55M capital investment still required, but capital impact to District is mitigated by full upfront cost recovery from new applicants.

** Revenue impact does not include recovery of cost of capital incurred by District.

*** Market variations assume 5-year forward market rate as low-side and highest existing District slice as high-side.

District Impact of 100 aMW Load Increase - Summary

An illustrative example for purpose of rate comparisons	Capital Investment Risk	Total Annual Revenue Impact after Build-out**		
		Expected	Ranges under Market Variations***	
			Low Market	High Market
Current Rates	$55M risk	$ (18M)		
Rate option #1 (Market cost energy with production cost floor + full recovery for customer and delivery cost)	$55M risk or $0 with full upfront cost recovery*	$ 1.5M		
Rate option #2a (Production cost energy + full recovery for customer and delivery cost)	$0 with full upfront cost recovery*	$ (2.5M)		
Rate option #2b (Higher of market cost or production cost energy + current customer and delivery blended rate)	$0 with full upfront cost recovery*	$ (8M)		

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District Impact of 100 aMW Load Increase - Summary

An illustrative example for purpose of rate comparisons	Capital Investment Risk	Total Annual Revenue Impact after Build-out**		
		Expected	Ranges under Market Variations***	
			Low Market	High Market
Current Rates	$55M risk	$ (18M)	$(11M)	
Rate option #1 (Market cost energy with production cost floor + full recovery for customer and delivery cost)	$55M risk or $0 with full upfront cost recovery*	$ 1.5M	$4M (production rate)	
Rate option #2a (Production cost energy + full recovery for customer and delivery cost)	$0 with full upfront cost recovery*	$ (2.5M)	$4M	
Rate option #2b (Higher of market cost or production cost energy + current customer and delivery blended rate)	$0 with full upfront cost recovery*	$ (8M)	$ (5M) (production rate)	

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District Impact of 100 aMW Load Increase - Summary

An illustrative example for purpose of rate comparisons	Capital Investment Risk	Total Annual Revenue Impact after Build-out**		
		Expected	Ranges under Market Variations***	
			Low Market	High Market
Current Rates	$55M risk	$ (18M)	$(11M)	$(27M)
Rate option #1 (Market cost energy with production cost floor + full recovery for customer and delivery cost)	$55M risk or $0 with full upfront cost recovery*	$ 1.5M	$4M (production rate)	$ 1.5M
Rate option #2a (Production cost energy + full recovery for customer and delivery cost)	$0 with full upfront cost recovery*	$ (2.5M)	$4M	$(12M)
Rate option #2b (Higher of market cost or production cost energy + current customer and delivery blended rate)	$0 with full upfront cost recovery*	$ (8M)	$ (5M) (production rate)	$ (8M)

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Comments/Questions?

Public Comment Period

Rate Discussion Next Steps

- March 7
  - No new HDL information planned
- March 21
  - Continued comment opportunity
  - Seek guidance on rate design options
  - Seek guidance on upfront system impact fees
  - Seek guidance on rate implementation options

Moratorium Timeline Options

If Board chooses to implement rates and upfront charges

Go Forward Now

- June 6, 2016
  - Final rate decision
- Summer 2016
  - Implement upfront system impact fees
- October 3, 2016
  - Rate implementation target
  - Moratorium lifted

Delay

- Review internal and external economic development studies by year-end 2016
- March 6, 2017
  - Final rate decision
- Summer 2017
  - Implement upfront system impact fees
- July 5, 2017
  - Rate implementation target
  - Moratorium lifted