

Historic Residential Electric Rates, Supply Portfolio and Unit Prices of NorthWestern Energy

Prepared By:

Jason T. Brown
Montana Public Service Commission
1701 Prospect Ave.
Helena, MT 59601
(406) 444-6187
jbrown4@mt.gov

Table of Contents

Introduction	1
<hr/>	
Components of Residential Electric Supply Rate in March 2011	3
Historic Residential Electric Supply Rate (nominal dollars).....	4
Historic Residential Electric Supply Rate (present-day dollars).....	5
<hr/>	
Components of Residential Electric Rate in March 2011	6
Historic Residential Electric Rate (nominal dollars)	7
Historic Residential Electric Rate (present-day dollars)	8
<hr/>	
Components of Default Electric Supply in March 2011	9
Historic Default Electric Supply	10
<hr/>	
Average Unit Prices of Individual Sources of Electric Supply	11
Unit Price of Colstrip Unit 4	12
Unit Price of Judith Gap	12
Unit Price of Short Term, Fixed Price Purchases	13
Unit Price of Spot Market Purchases	13
Unit Price of PPL	14
Unit Price of DSM	14

Introduction

The following graphs show the actual residential electric rates, default supply portfolio and unit prices of NorthWestern Energy (NorthWestern) through July 2010,¹ adjusted for inflation. This information is available in published tariffs and regular "electric supply tracker" dockets at the Montana Public Service Commission (PSC).²

NorthWestern's "default" supply portfolio serves customers that did not enter into a contract with a competitive electricity supplier following deregulation. Since 1998, most default supply customers – including virtually all residential customers – have paid an electric rate (\$/kWh) consisting of at least four charges: (1) A **distribution** delivery service charge; (2) a **transmission** delivery service charge; (3) an electric **supply** charge; and (4) a universal system benefits (**USB**) charge. Whereas the transmission and distribution charges pay for NorthWestern's "wires and poles", the supply charge pays for the electricity (**supply**) that it purchases and generates for default customers.

At the time of deregulation, the Montana Legislature created the USB charge – set to annually collect 2.4% of NorthWestern's retail sales revenue in 1995 – "to ensure continued funding of and new expenditures for energy conservation, renewable resource projects and applications, and low-income energy assistance."³ NorthWestern uses a portion of USB funds for conservation and efficiency efforts. Additionally, it has managed a larger, more cost-effective portfolio of conservation and efficiency programs since 2004.

Known as demand-side management (**DSM**), these programs are funded through the supply charge.

When successful, DSM efforts reduce sales, which in turn reduces the number of distribution, transmission, and supply rates that NorthWestern collects to pay for its wires, poles and other owned infrastructure. To ensure this reduction in sales does not diminish its DSM efforts, the PSC allows NorthWestern to collect "lost revenues" that it would have collected anyway – through the transmission, distribution and supply charges – had it not reduced consumption through DSM programs.

NorthWestern buys a significant portion of its supply on the open market, either for a **fixed price and short term** (up to eighteen months), or on an hour-ahead, **spot market** basis. NorthWestern buys about half of its supply, however, through long-term contracts with PPL Montana, LLC (**PPL**); Invenergy, LLC (**Judith Gap**); and pre-deregulation "qualifying facilities" (**QFs**). PPL generates supply from its coal-fired power plants and hydroelectric dams. Judith Gap is a wind farm that has provided supply since November 2005, and has enabled NorthWestern to comply with Montana's renewable portfolio standard, which has existed since 2007.

The QFs, which are defined by federal law and consist mostly of thermal power plants, had eleven contracts with NorthWestern's predecessor before deregulation. To recover the higher-than-market prices these QFs are entitled to under their pre-deregulation contracts, NorthWestern collects part of their cost through the supply charge, and most of their remaining "out-of-market" cost through a QF Deregulation "Transition Charge" that appears as a separate rate.

¹ Rates are current through April 2011, but all other figures after June 2010 are estimates; May and June, 2011 will be updated in August, 2011.

² See e.g. PSC Dockets D2011.5.38 & D2010.7.74.

³ Mont. Code Ann. § 69-8-402 (2009).

As of April 2011, the "**other**" category includes contracts all post-deregulation QFs, the U.S. Bureau of Reclamation's Tiber Dam, and Basin Creek Equity Partners, LLC, which operates a natural gas-fired power plant used to meet peak demand.

Since January 2009, NorthWestern has generated some of its own supply at one unit of a coal-fired power plant it owns in Colstrip, Montana (**Colstrip Unit 4**). It has also operated the David Gates Generating Station (**David Gates**) since January 2011. The primary function of this power plant is not to provide supply, but rather "the reserve capacity necessary to maintain transmission system reliability and balance on a moment to moment basis as customer demand and available resources fluctuate."⁴ As a wind farm, Judith Gap is one of the resources that fluctuates, and probably requires about a quarter of Mill Creek's current capacity to level some of its fluctuation. Because this cost is attributable to Judith Gap, the graphs show about a quarter of the current cost of Mill Creek allocated to Judith Gap.

The "**cap**" is a rate adjustment that ensures that the monthly percentage increase for each customer class is no greater than the residential customer rate class increase.

"**Line losses**" are electricity wasted in the form of heat and electromagnetic energy whenever supply is moved across power lines. To set the transmission, distribution and supply rates, NorthWestern assumes a loss factor for each customer class. For example, it assumes that 8.51% of the supply delivered to its system is lost before reaching residential customers. The graph on page 10, which shows total electric supply for all classes of default customers, uses a system average loss factor of about 7.5%.

Two other lines that appear on the bill of residential customers are not shown on the graphs. First, the Bonneville Power Administration (BPA) residential exchange credit is a means of sharing the benefits of low-cost federal hydropower with NorthWestern customers. BPA, an agency that markets the supply generated by federally owned dams on the Columbia River, provided inexpensive supply to the region until the 1970s, when increasing demand forced it to not renew contracts with certain utilities like NorthWestern. "In order to avoid an energy crisis and to redress BPA's diminishing ability to satisfy the region's power demands," Congress authorized BPA to continue to share the benefits of low-cost federal hydropower through a residential exchange program.⁵ Because this credit does not affect NorthWestern's approved costs, and may not continue indefinitely, it does not appear on the graphs.

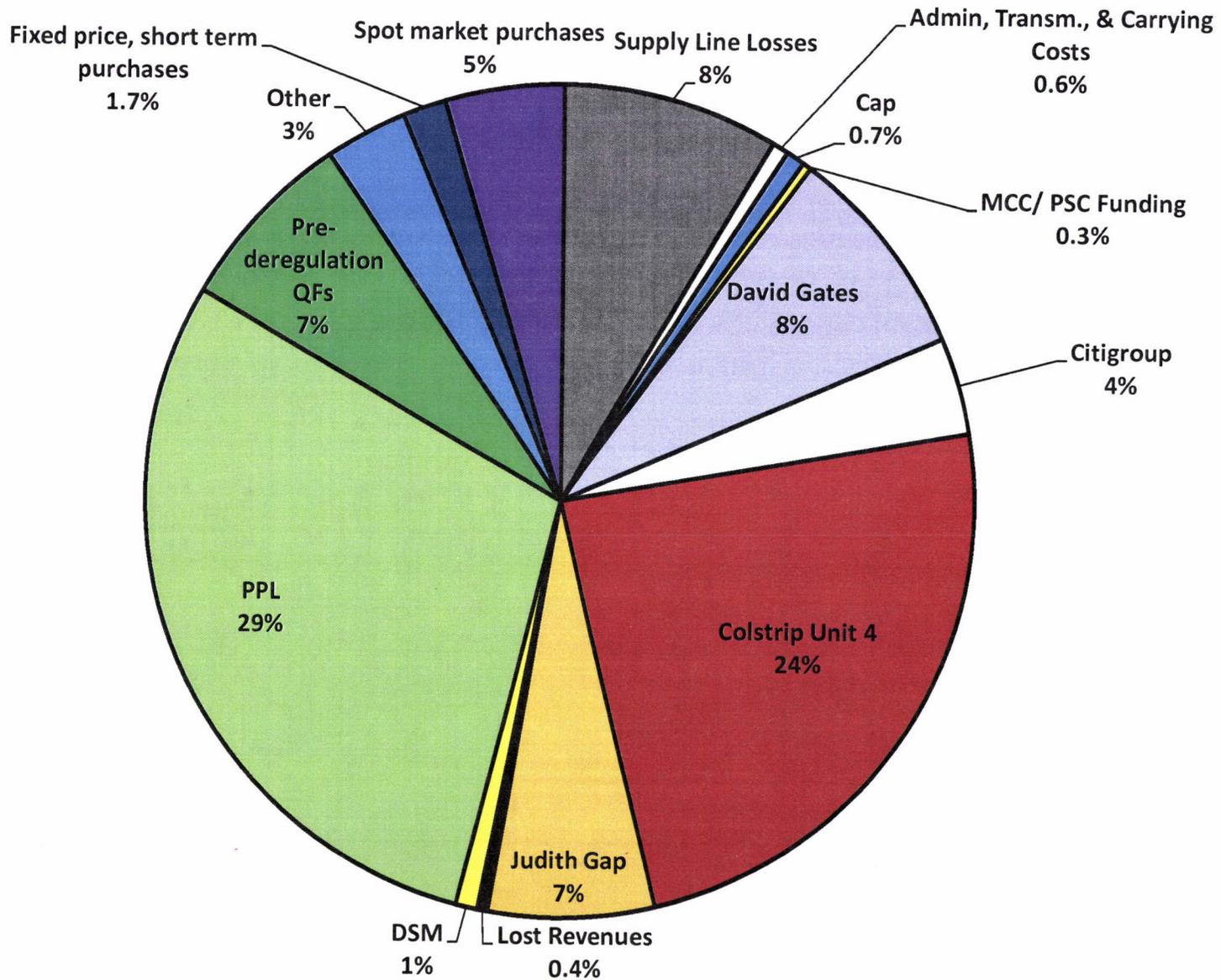
The other line not shown is a deferral of supply costs, and may be a credit or debit depending on whether NorthWestern over- or under-collected its approved supply costs during the previous regulatory period. Because this deferral also does not affect the approved amount that NorthWestern collects, but merely when it collects, it does not appear on the graphs.

Finally, the only other component of the residential supply rate that does not appear on the graphs is the discount for certain retired NorthWestern employees, whose personal consumption NorthWestern reduces by forty percent before calculating the supply rate, effectively shifting part of their costs to the other nine classes of default customers, including the residential class. For residential customers, this discount adds only about \$0.02 to the roughly \$60/MWh supply rate.

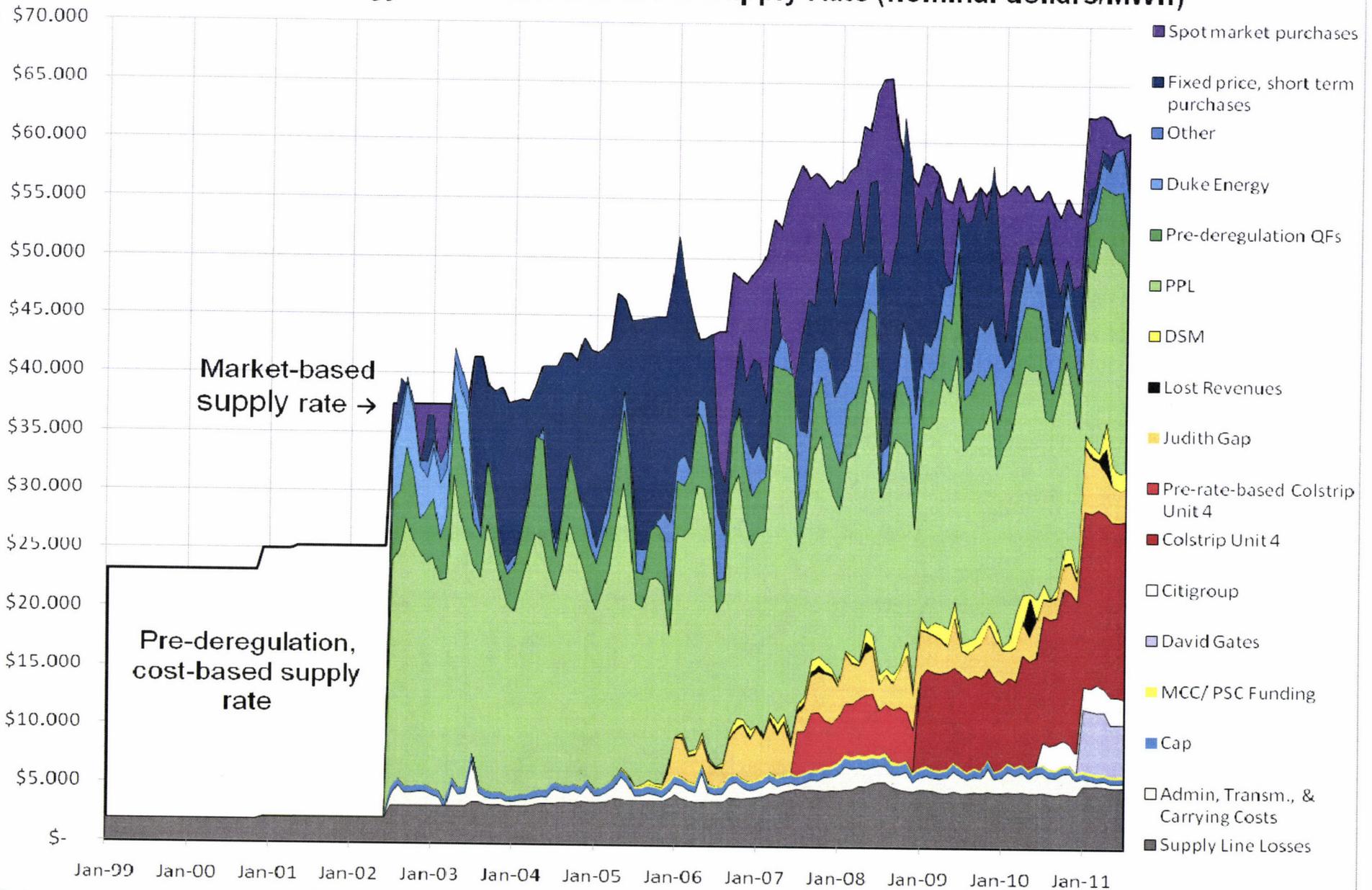
⁵ *Portland Gen. Elec. Co. v. BPA*, 501 F.3d 1009, 1014 (9th Cir. 2007).

⁴ NorthWestern Bill Insert, p. 1 (Jan. 2011).

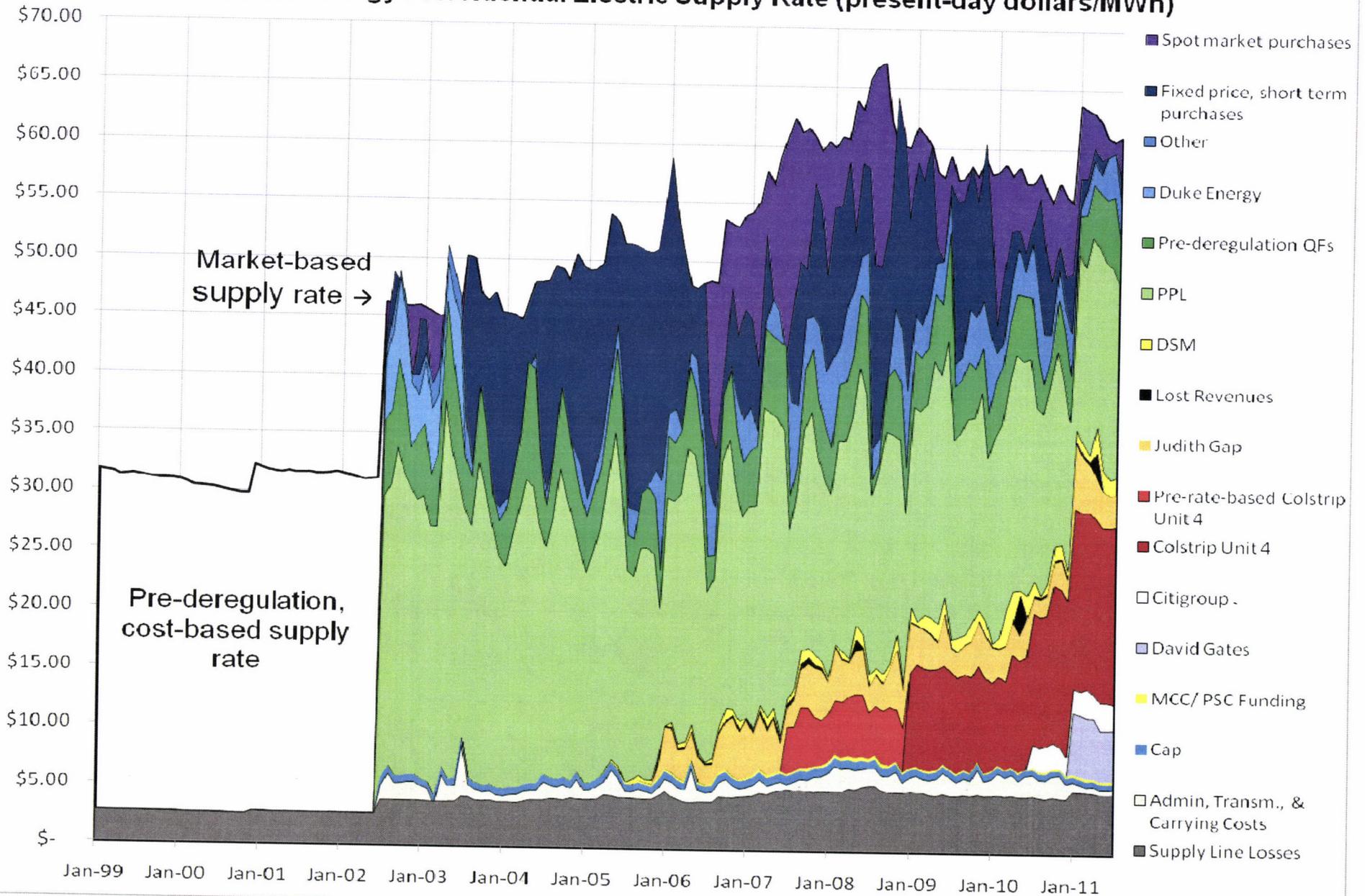
Components of NorthWestern Energy's Residential Electric Supply Rate in March 2011



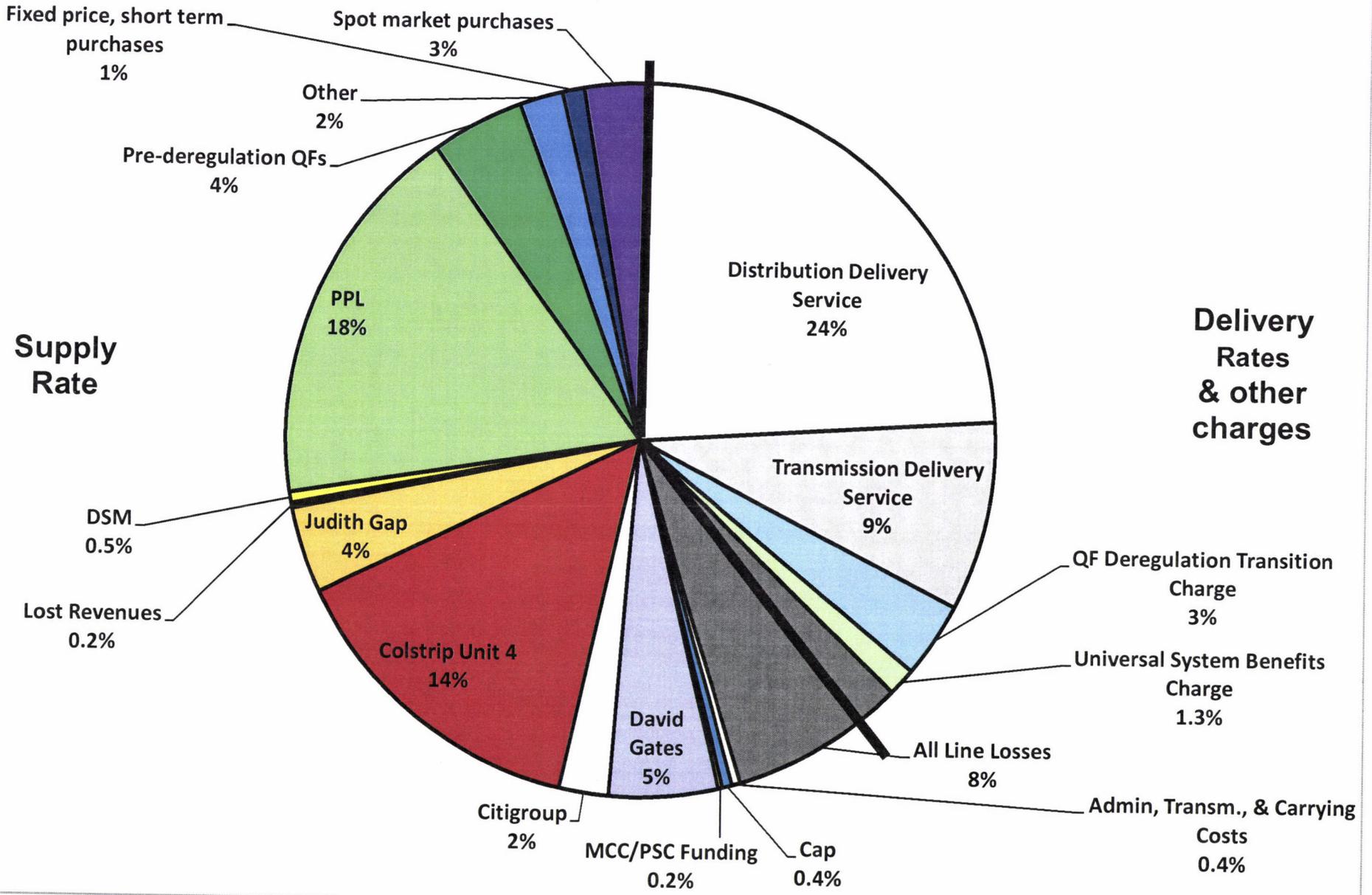
NorthWestern Energy's Residential Electric Supply Rate (nominal dollars/MWh)



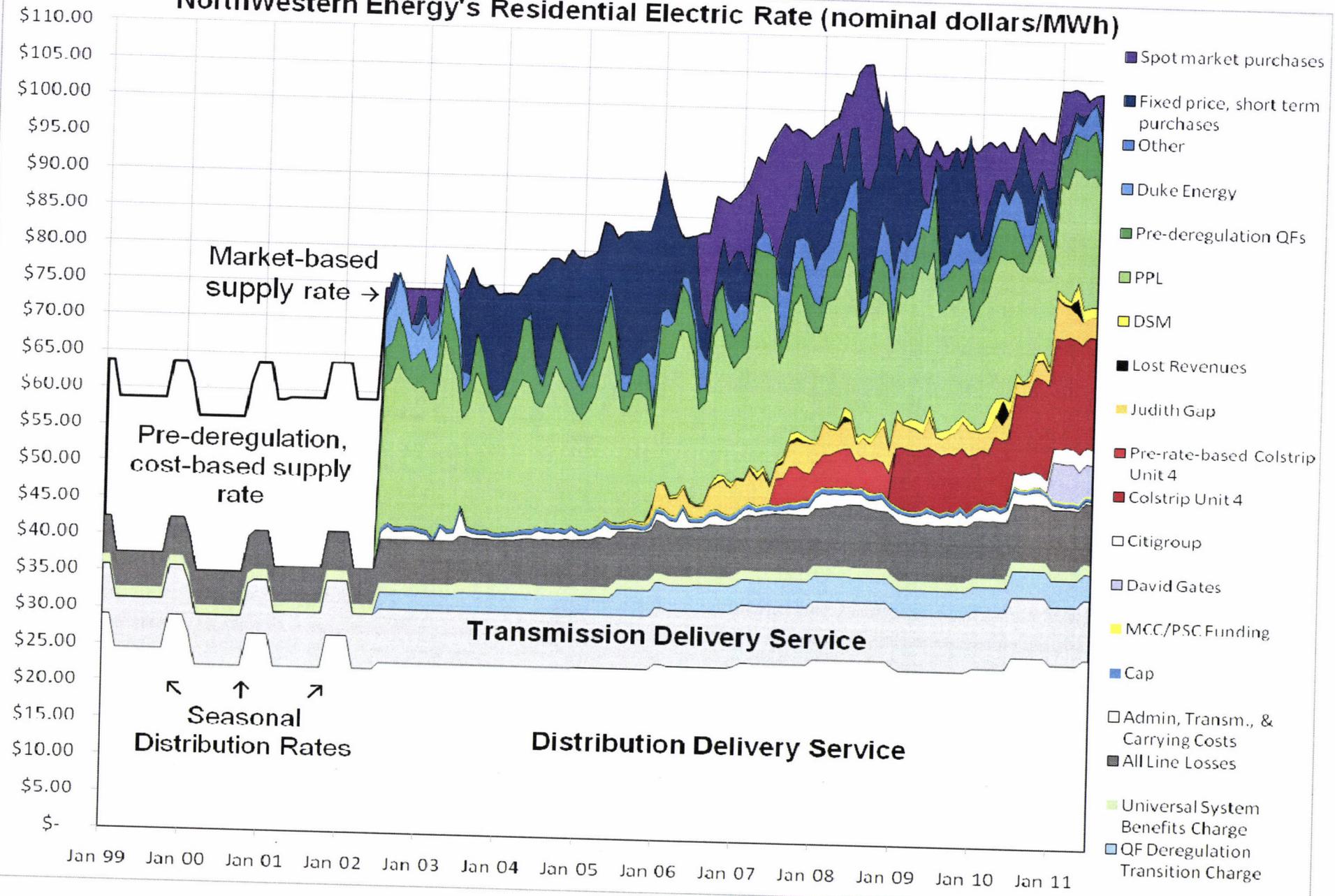
NorthWestern Energy's Residential Electric Supply Rate (present-day dollars/MWh)



Components of NorthWestern Energy's Residential Electric Rate in March 2011

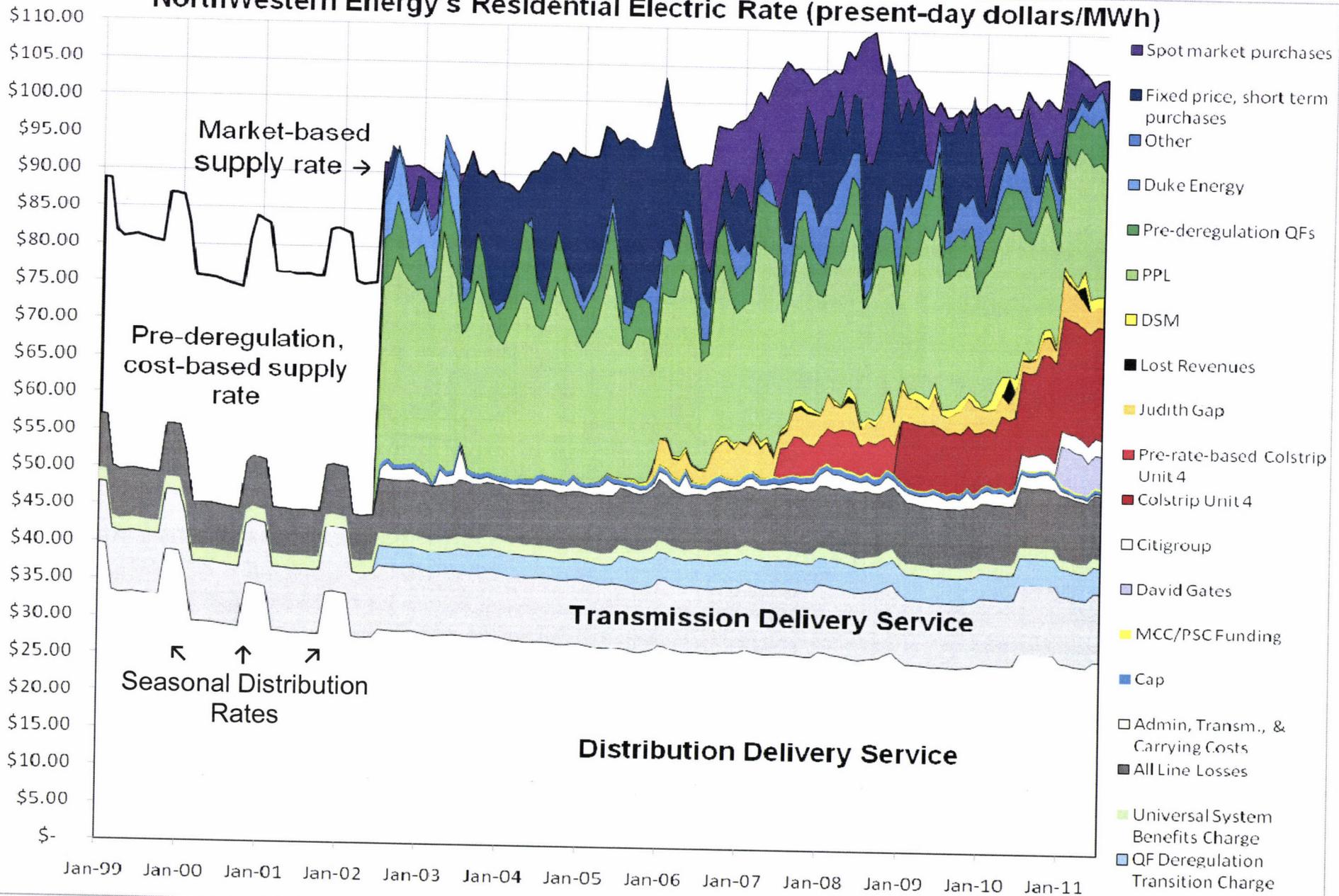


NorthWestern Energy's Residential Electric Rate (nominal dollars/MWh)

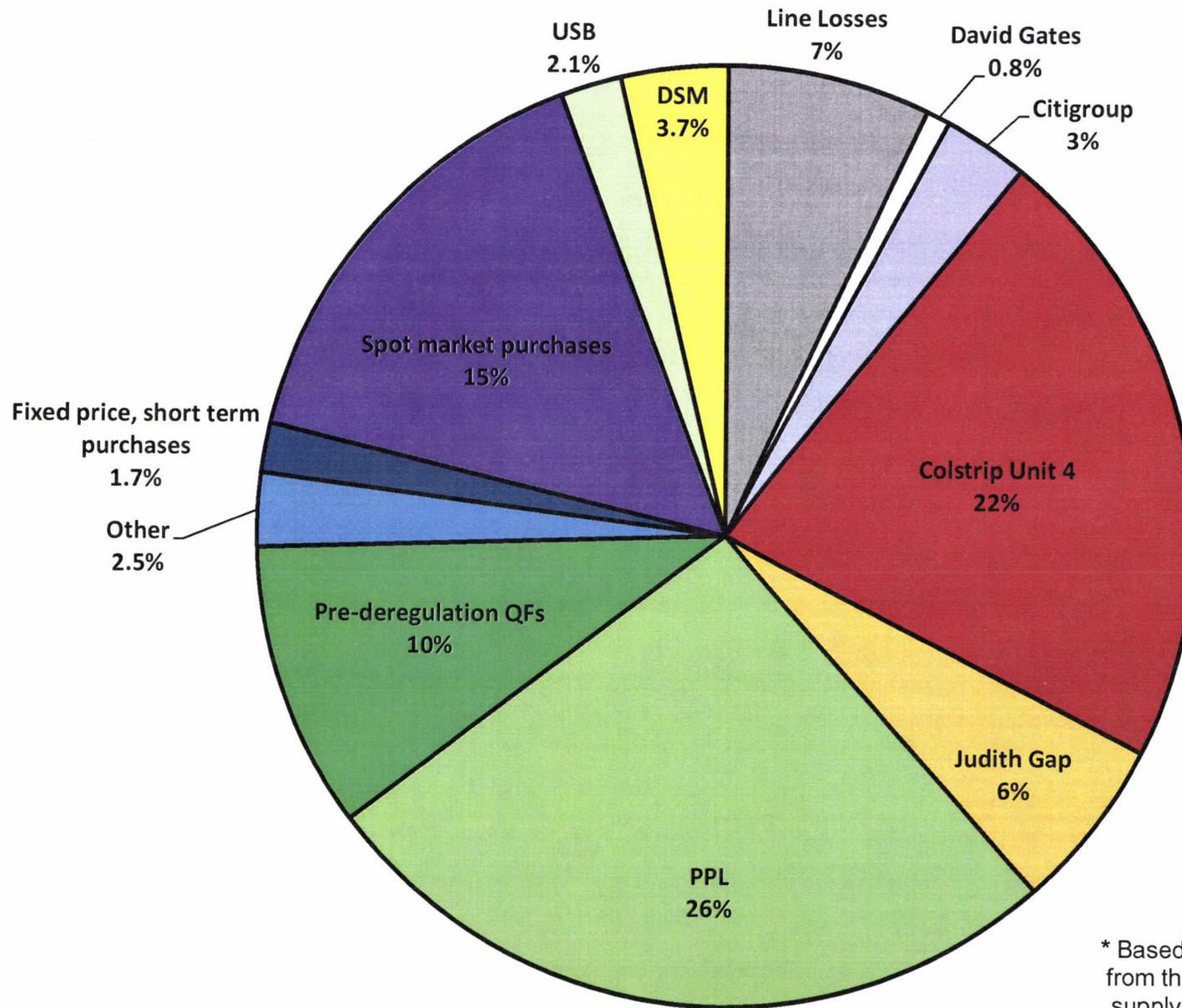


Prepared by: Jason T. Brown
For informational use only

NorthWestern Energy's Residential Electric Rate (present-day dollars/MWh)

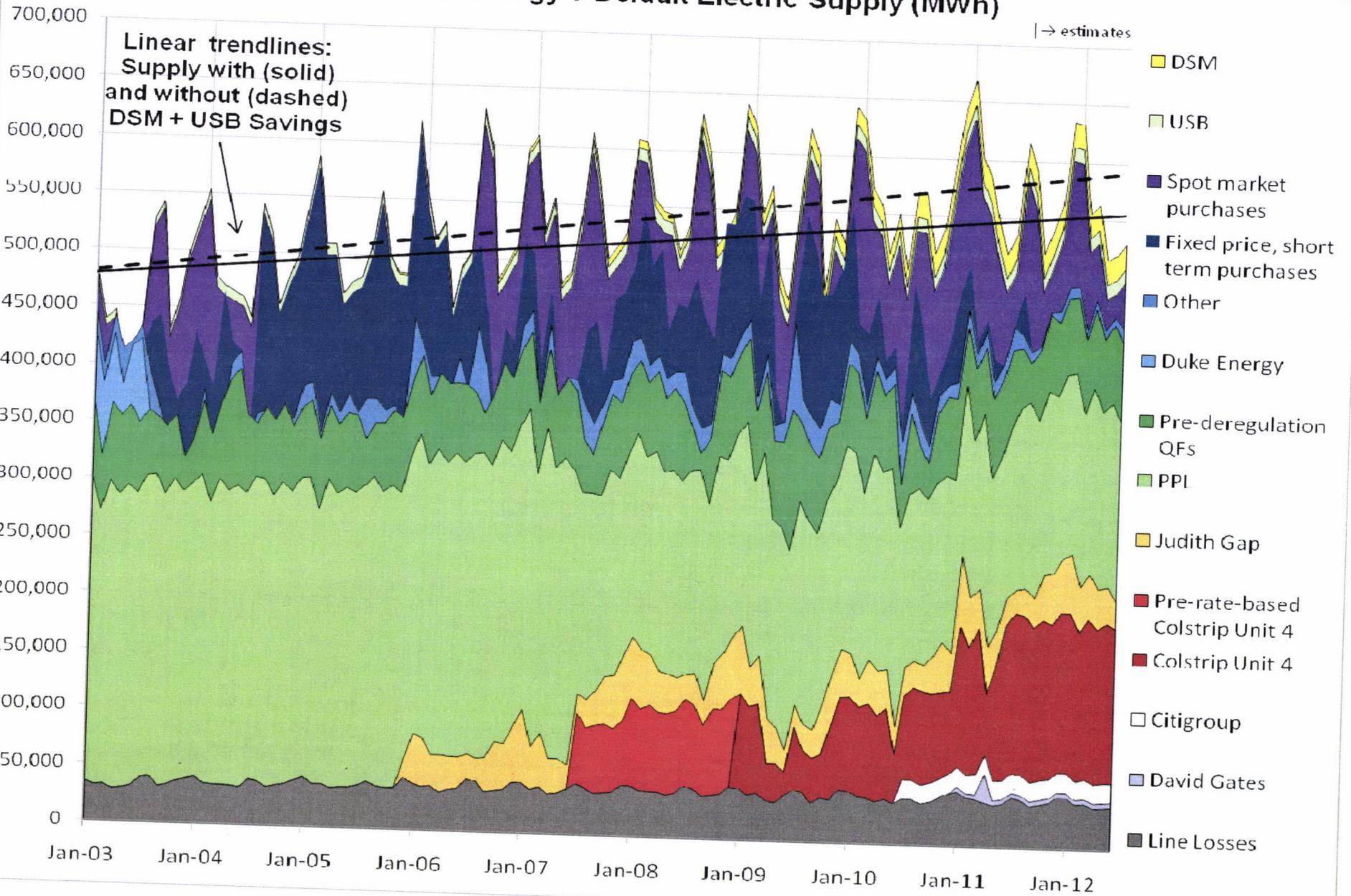


Components of NorthWestern Energy's Default Electric Supply in March 2011



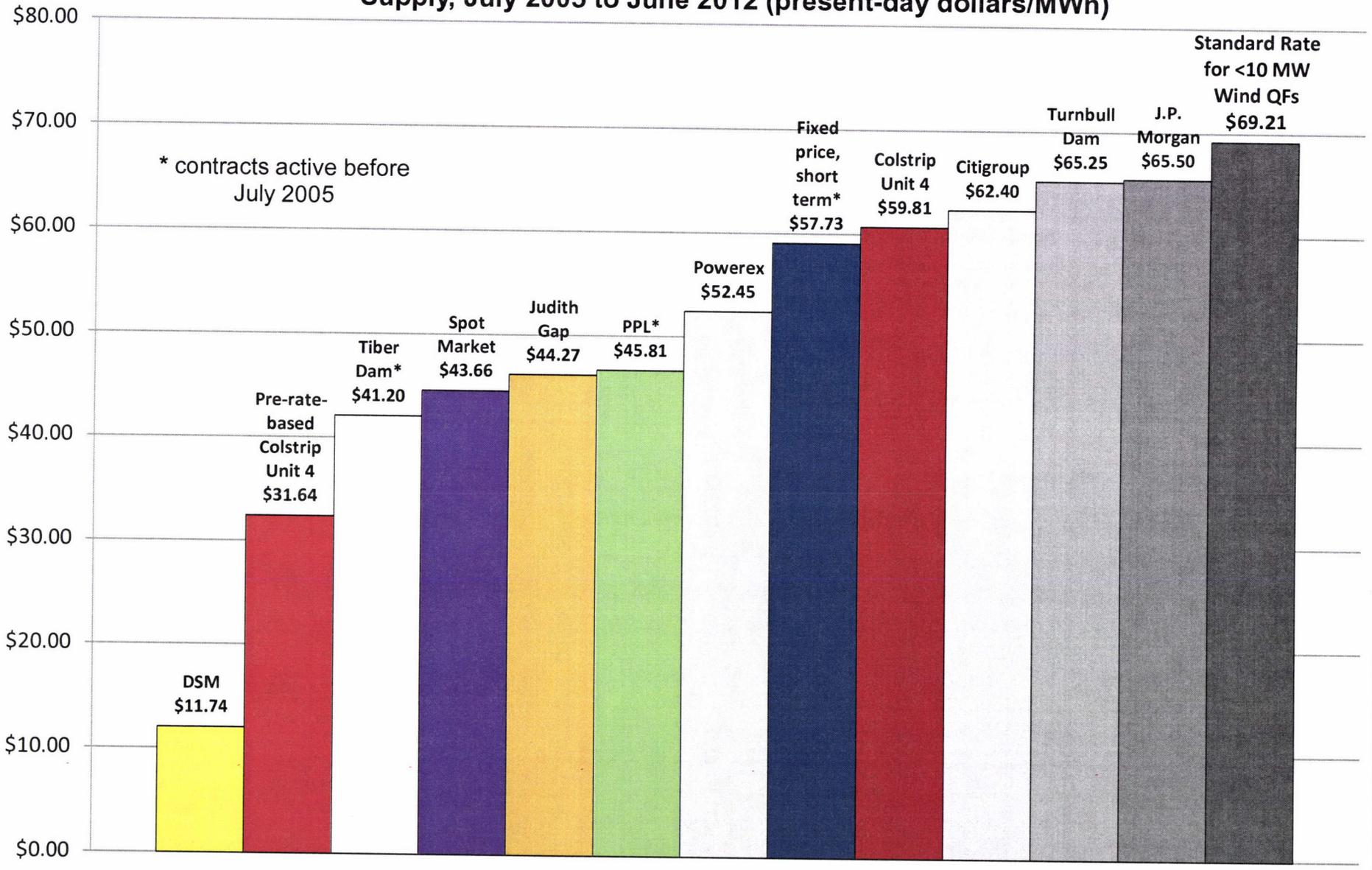
* Based on actual 2010-2011 figures from the most recent annual default supply tracker, Docket D2011.5.38

NorthWestern Energy's Default Electric Supply (MWh)

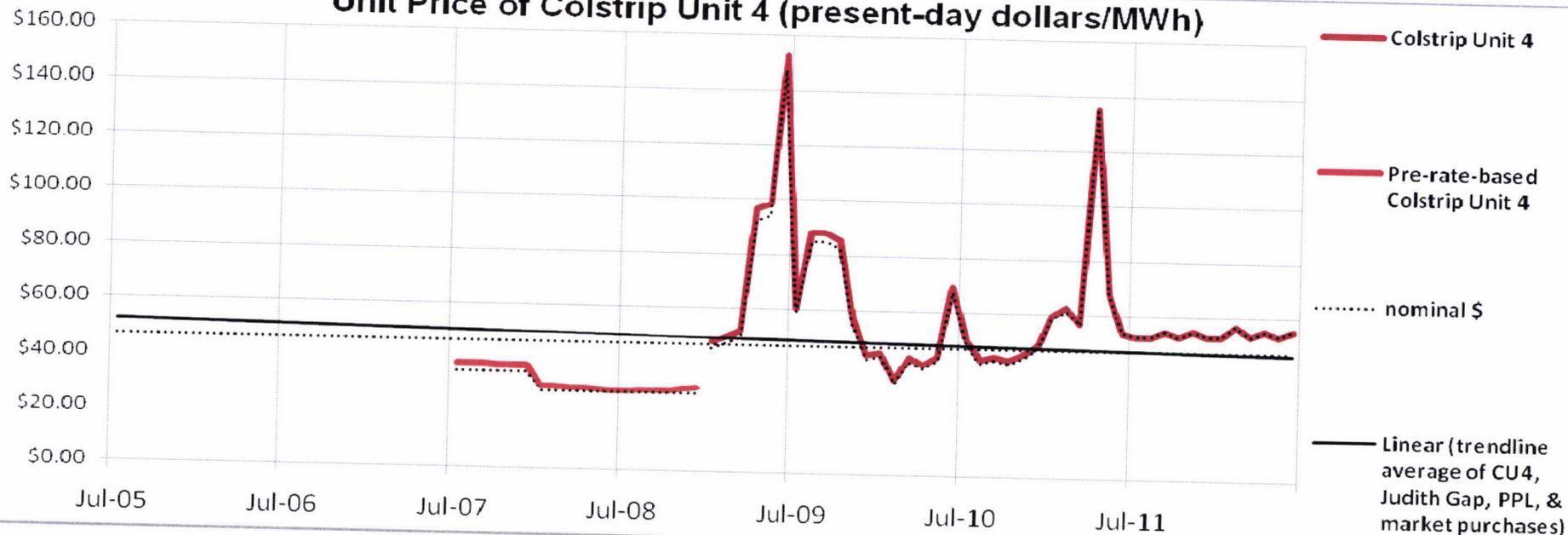


Prepared by: Jason T. Brown
For informational use only

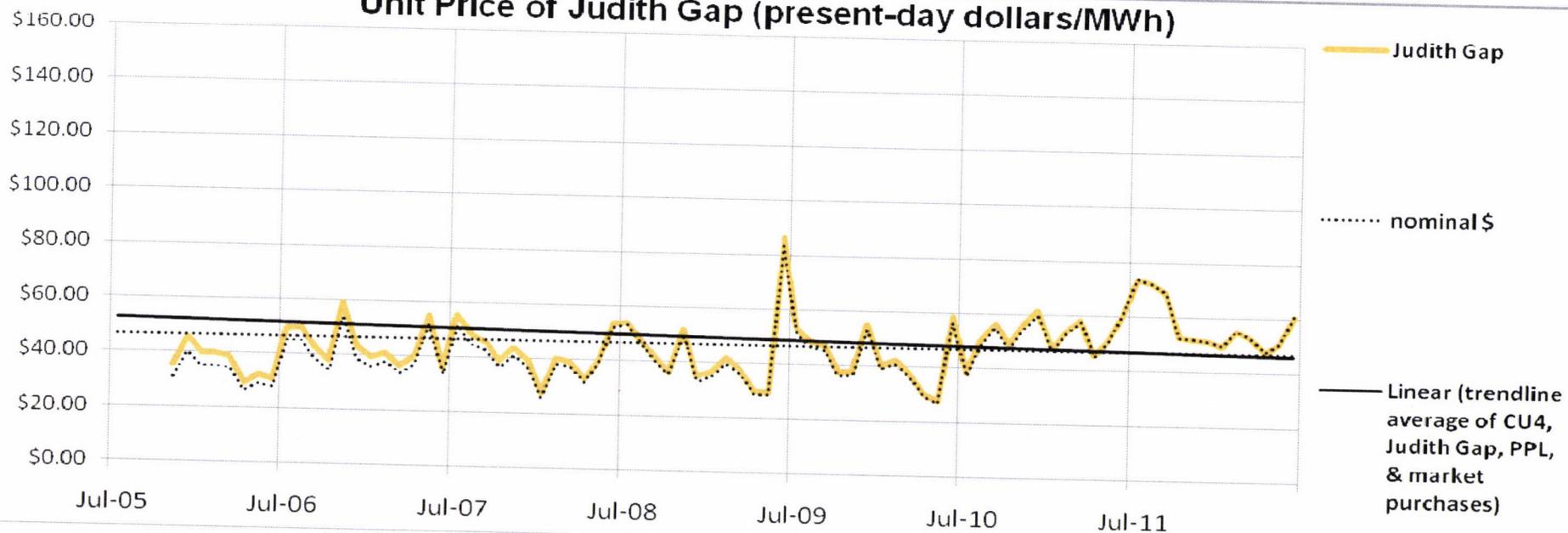
Average Unit Prices of Individual Sources of NorthWestern Energy's Default Electric Supply, July 2005 to June 2012 (present-day dollars/MWh)

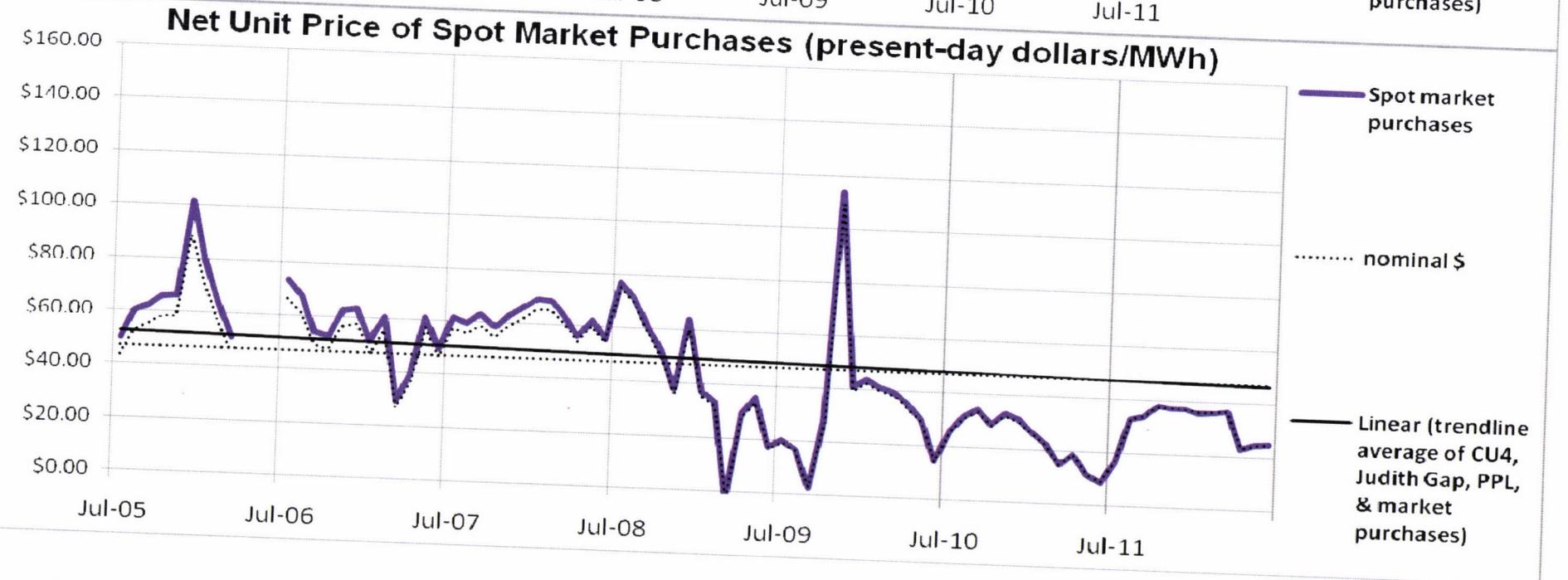
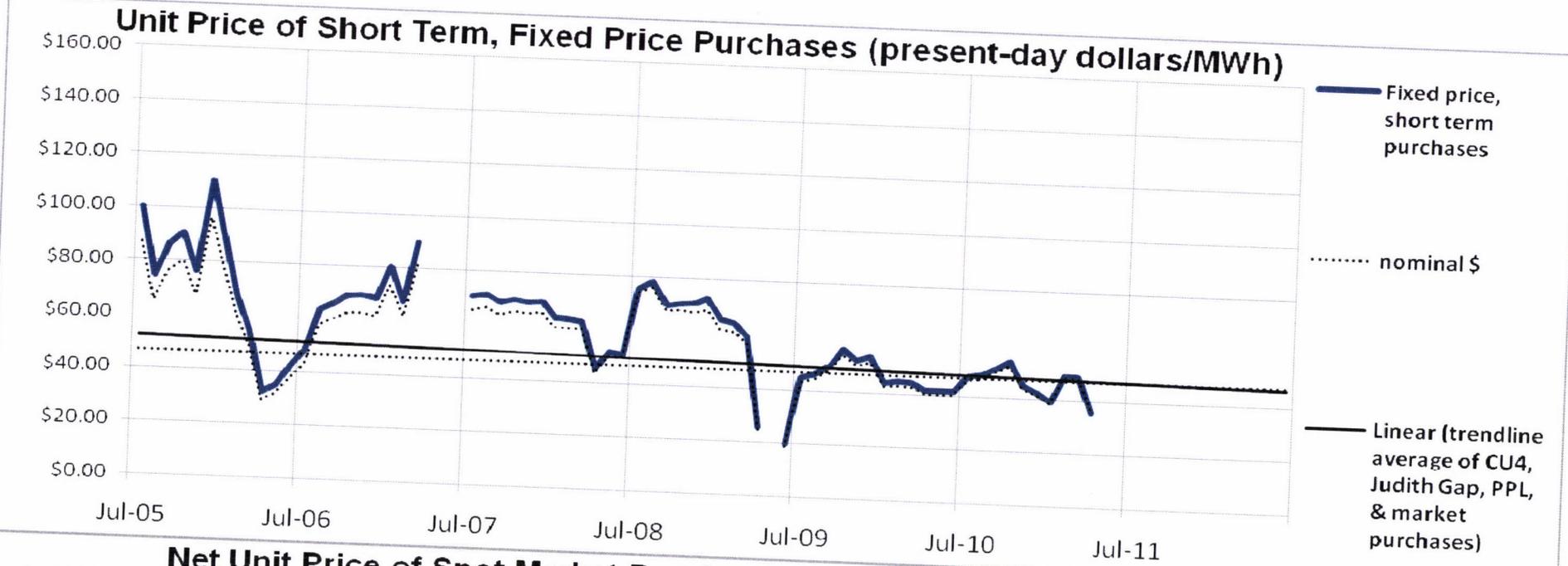


Unit Price of Colstrip Unit 4 (present-day dollars/MWh)

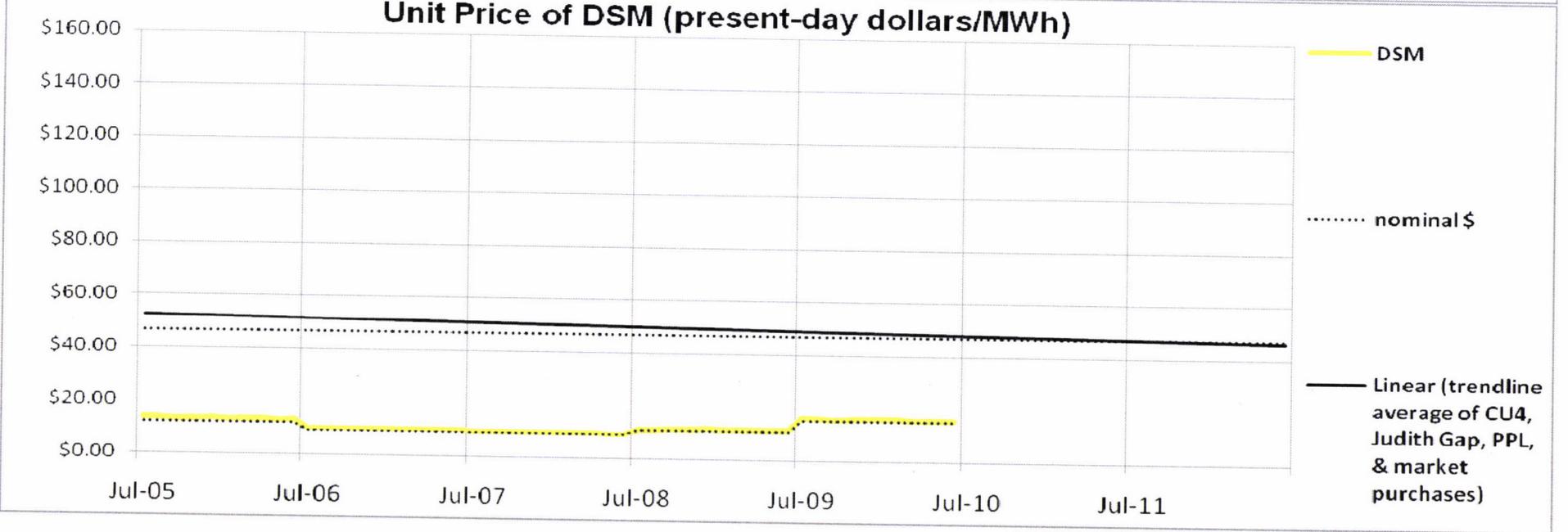
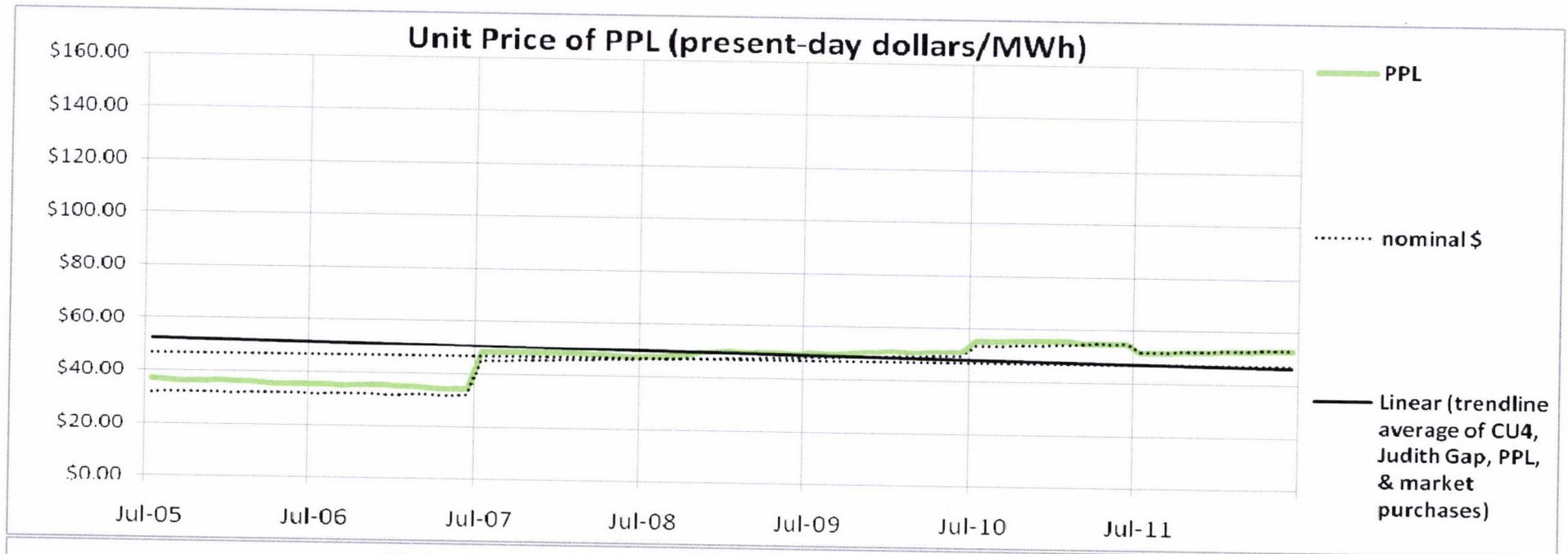


Unit Price of Judith Gap (present-day dollars/MWh)

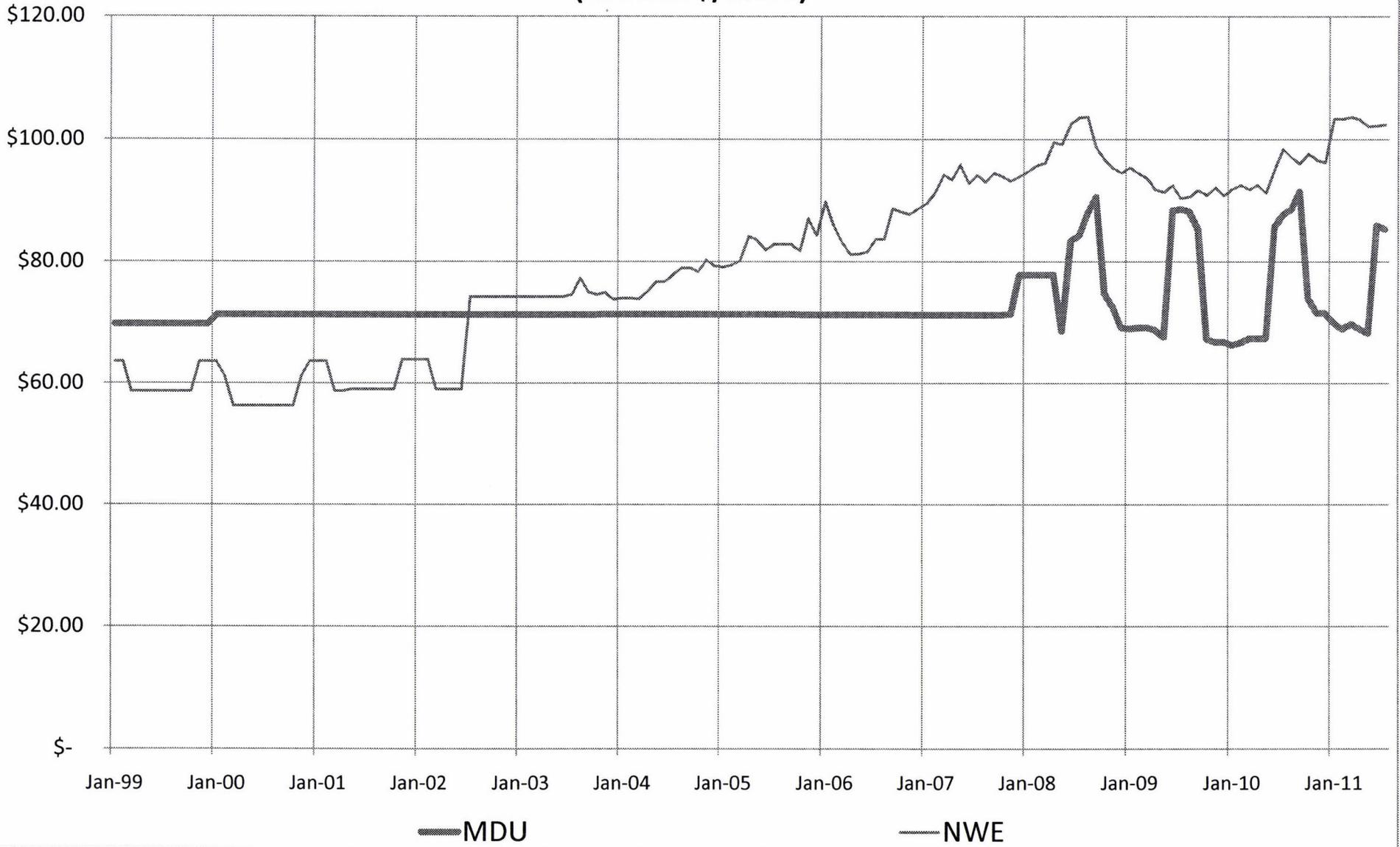




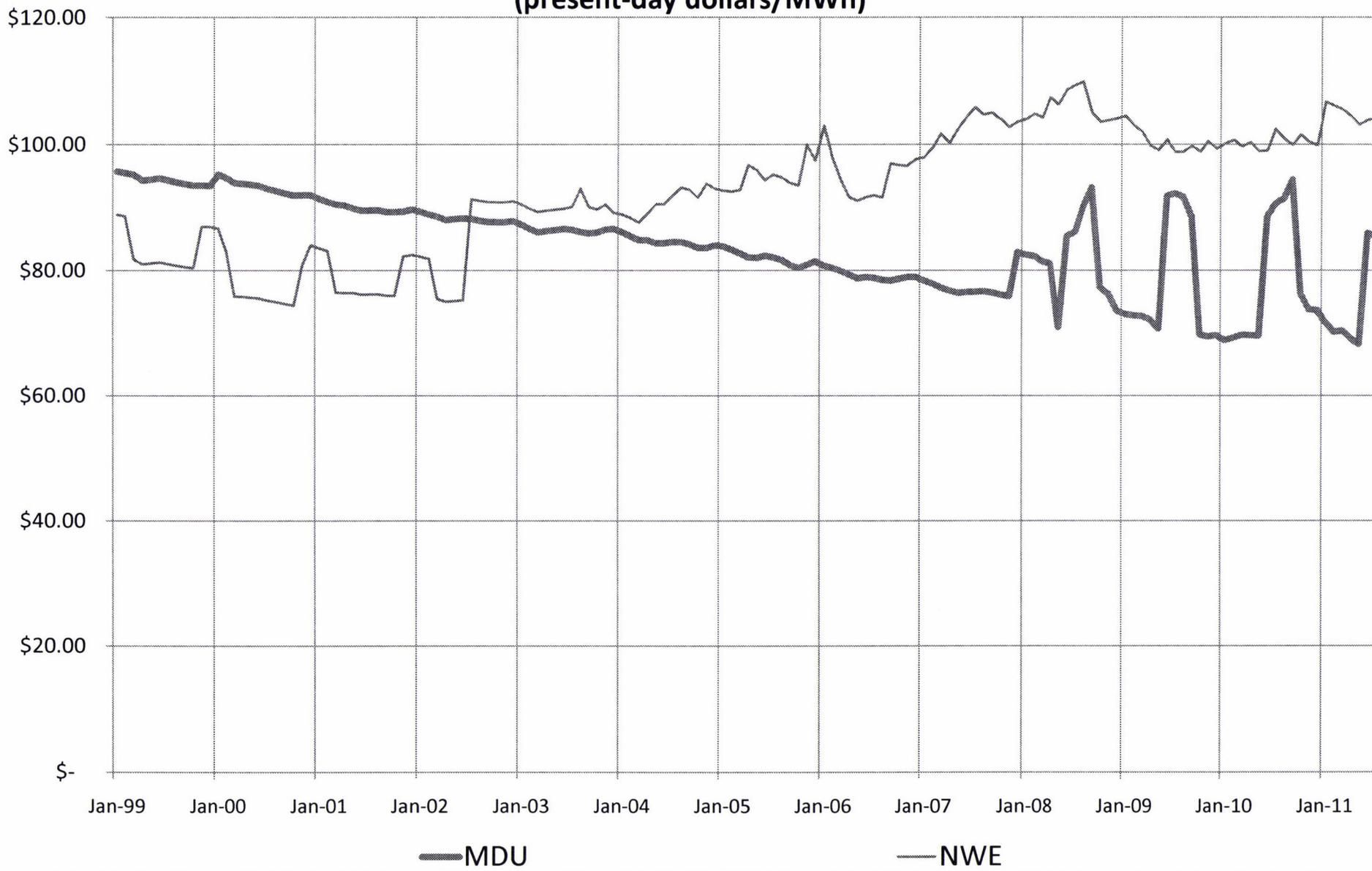
Prepared by: Jason T. Brown
For informational use only



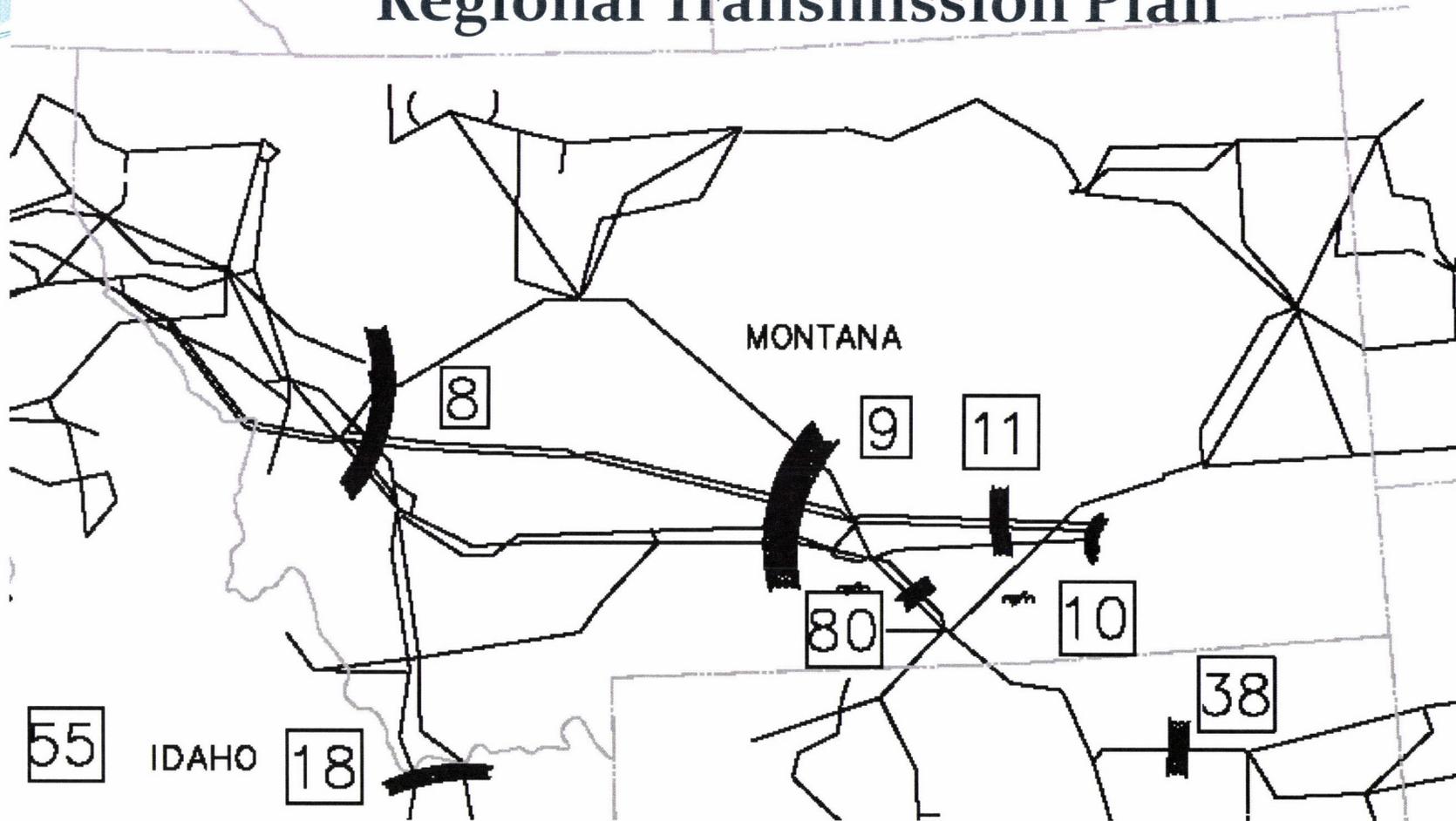
NorthWestern Energy & Montana-Dakota Utilities' Total Residential Electric Rates (nominal \$/MWh)



NorthWestern Energy & Montana-Dakota Utilities' Total Residential Electric Rates (present-day dollars/MWh)



WECC Draft 10-Year Regional Transmission Plan

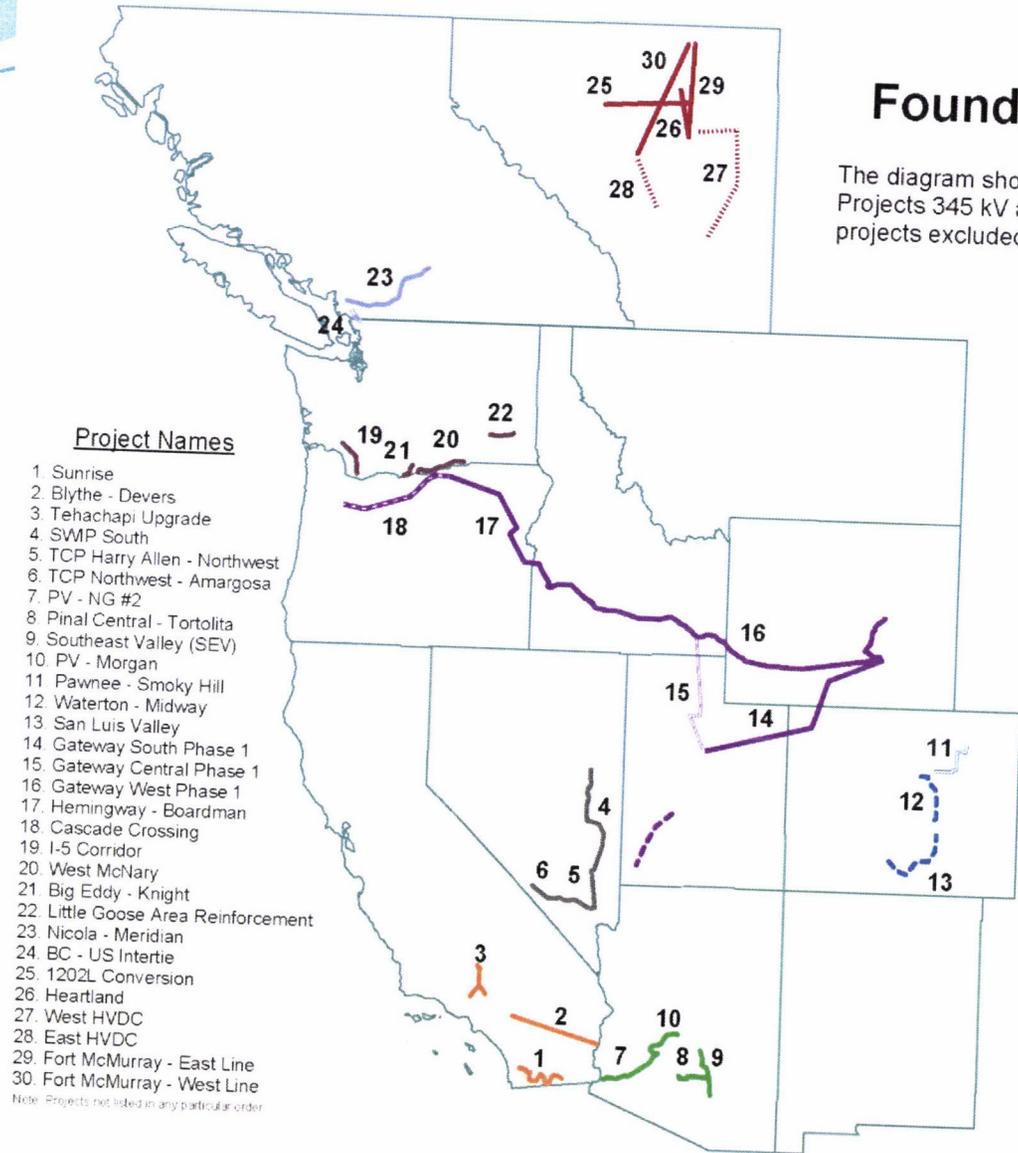


Montana PSC
Chairman Travis Kavulla
July 15 2011



Foundational Projects - 2020

The diagram shows illustrative routings for 30 SCG Foundational Projects 345 kV and higher. There are 10 lower voltage/reinforcement projects excluded from the map for clarity.



Project Names

1. Sunrise
2. Blythe - Devers
3. Tehachapi Upgrade
4. SWP South
5. TCP Harry Allen - Northwest
6. TCP Northwest - Amargosa
7. PV - NG #2
8. Pinal Central - Tortolita
9. Southeast Valley (SEV)
10. PV - Morgan
11. Pawnee - Smoky Hill
12. Waterton - Midway
13. San Luis Valley
14. Gateway South Phase 1
15. Gateway Central Phase 1
16. Gateway West Phase 1
17. Hemingway - Boardman
18. Cascade Crossing
19. I-5 Corridor
20. West McNary
21. Big Eddy - Knight
22. Little Goose Area Reinforcement
23. Nicola - Meridian
24. BC - US Intertie
25. 1202L Conversion
26. Heartland
27. West HVDC
28. East HVDC
29. Fort McMurray - East Line
30. Fort McMurray - West Line

Note: Projects not listed in any particular order

Transmission Key

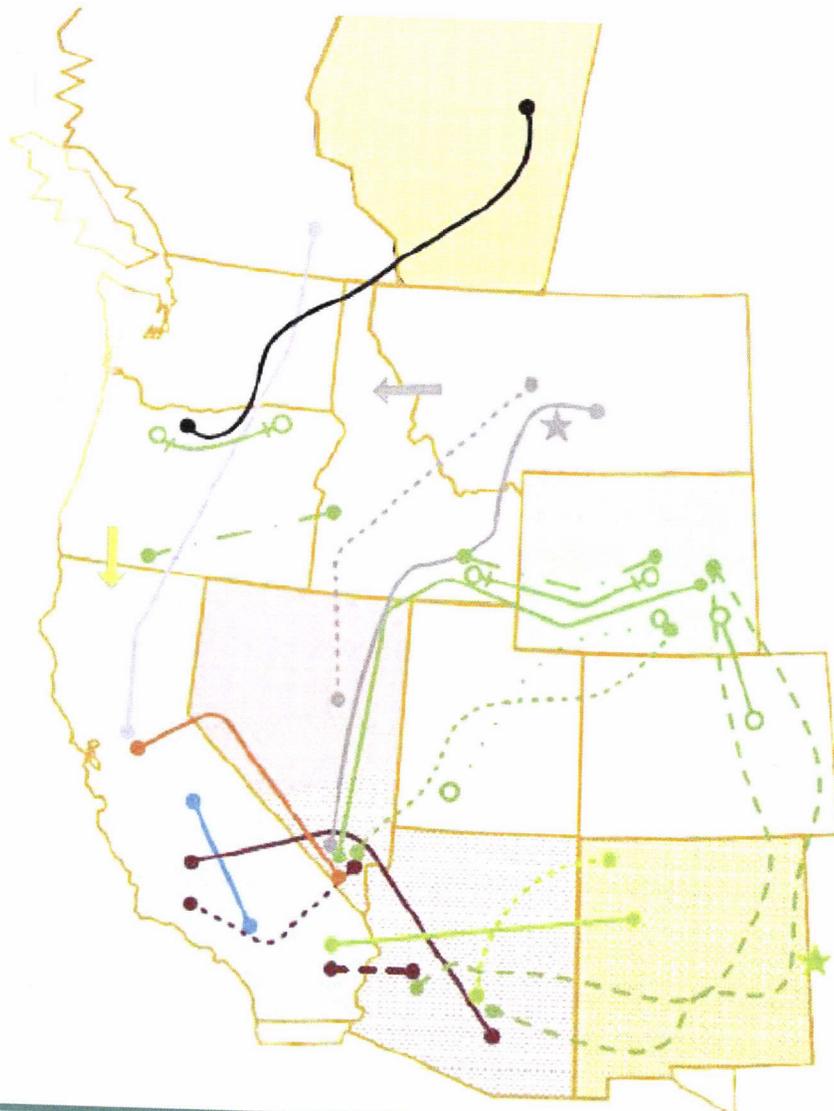
- 500 kV Single Circuit Line
- 345 kV Single Circuit Line
- 500 kV Double Circuit Line
- 345 kV Double Circuit Line
- DC Circuit (various voltages)

Sub-Region Key

- | | |
|-------|------|
| CAISO | NTTG |
| SSPG | CG |
| SWAT | BCH |
| CCPG | AESO |



Transmission Expansion Projects Considered



- Central California Clean Energy Transmission Project
- Phoenix-Mead-Adelanto HVDC
- Green Energy Express Transmission Project Phases 2&3
- Palo Verde - Colorado River 500kV Line
- Zephyr Project
- TransWest Express
- Hemingway-Captain Jack & GW#2
- High Plains Express and SunZia
- Cascade Crossing & GW #2
- Wyoming-Colorado Intertie
- Gateway South #2
- Canada-PNW-Northern CA Project
- Reno to Las Vegas 500kV and Two Blackhawk to Tracy/Tesla 500 kV lines
- Northern Lights
- Chinook Project
- MSTI and SWIP Projects
- MT-NW Path 8 Upgrades
- ★ Add 400MW Pumped Storage
- Santa Fe Project
- SunZia, High Plains Express Projects
- Tres Amigas Added
- Navajo Transmission Project
- ← COI Uprate Project

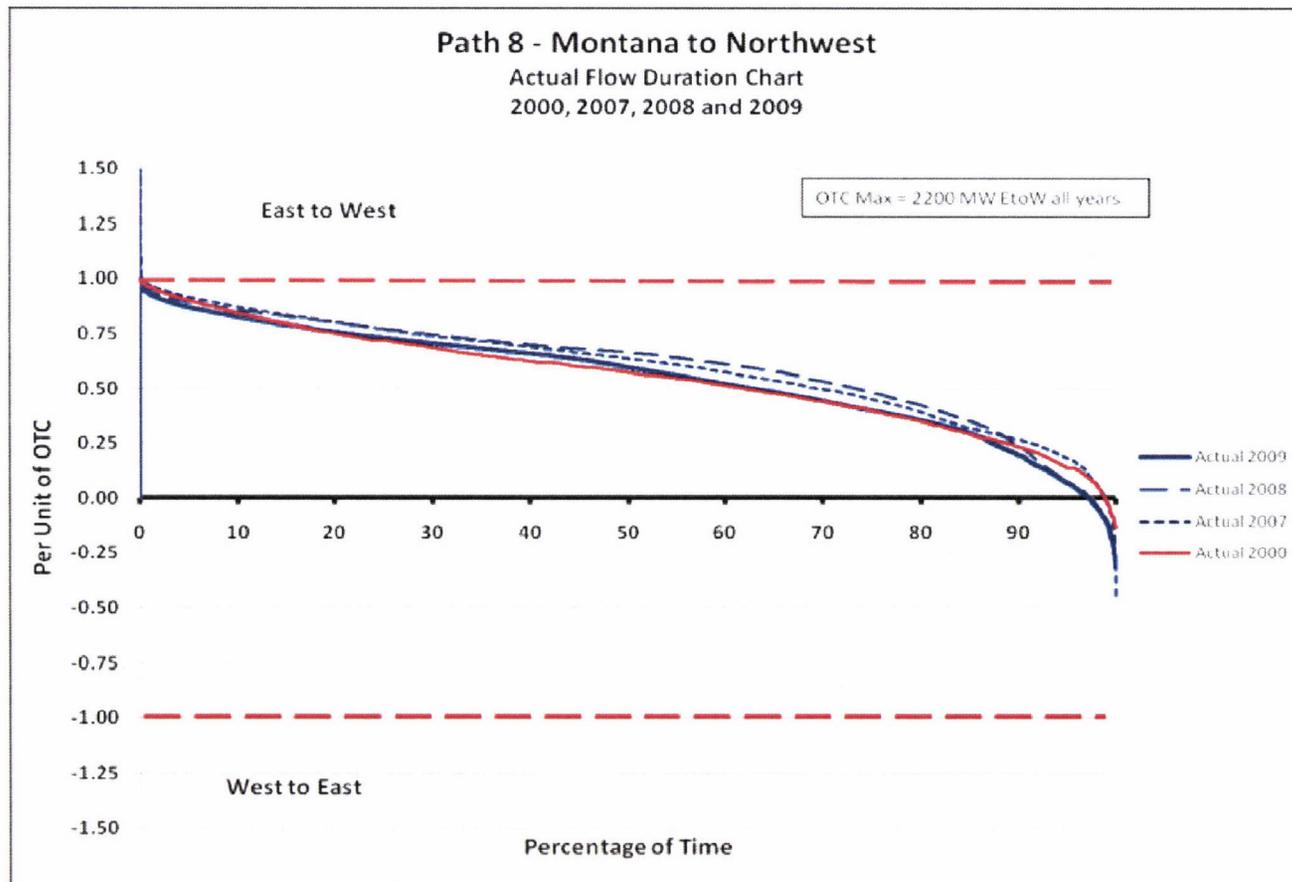


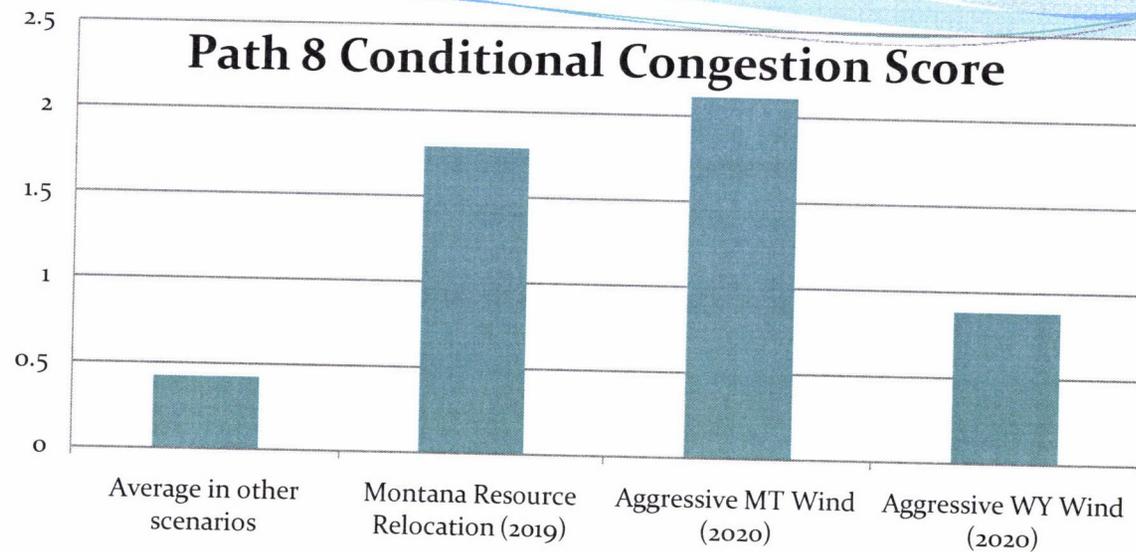
Montana to Northwest path – Path 8

- The utilization of and congestion on the Montana to Northwest transmission path (Path 8) increases under most conditions (i.e., renewable generation relocation in Montana) analyzed in support of the Plan.
- WECC recommends consideration by decision-makers for transmission upgrades or other mitigating measures that relieve congestion on path 8 as renewable generation is expanded in Montana.

- Of the three export paths used to transfer resources out of Montana, Path 8 seems to be the most congested by all measures.

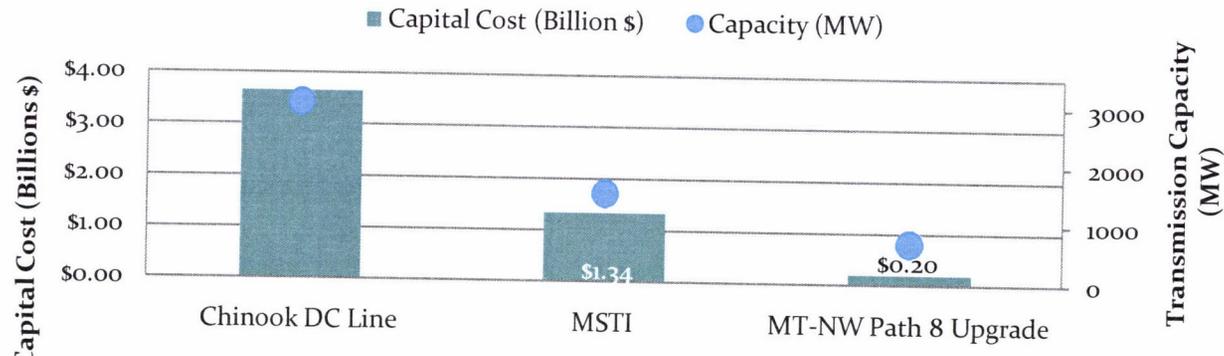
- Historical data shows that Path 8 has been, and remains, heavily utilized, which is consistent with its original design to move large quantities of base load generation out of Montana to the Northwest.





- In both Montana resource scenarios, Path 8 operated above 90 percent of its limit for at least 40 percent of the year. This extreme level of utilization is reflected in the high conditional congestion score.
- The drastic increase in congestion along Path 8 in these specific Montana and Wyoming resource scenarios is due to the system's inability to integrate the amount of renewable resources modeled while continuing to operate base load coal units in a traditional manner without additional transmission.

Montana Export Transmission Expansion Projects

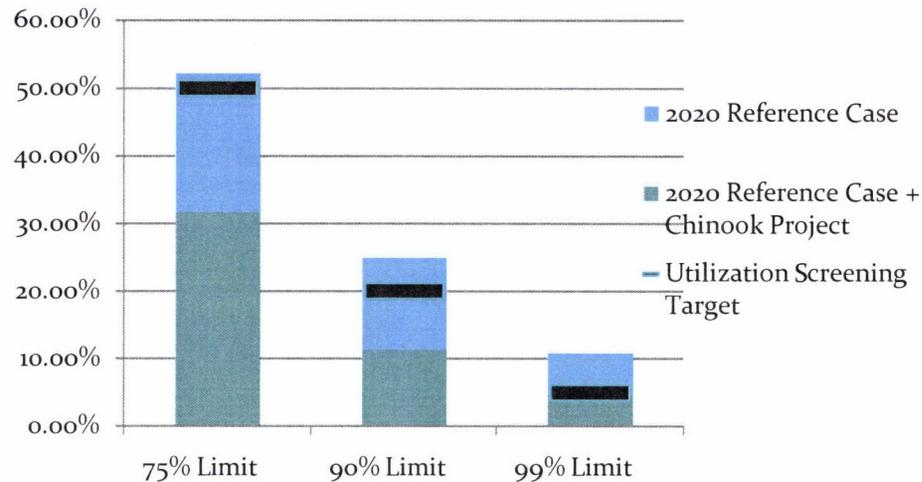


Chinook – 500 kV DC, 3000 MW electric transmission line originating near Harlowton, Montana, traversing Idaho and terminating in the Eldorado Valley, south of Las Vegas, Nevada.

MSTI – 500 kV AC, 1500 MW transmission line, delivering electricity from Montana to customers in the western US. The intent of the MSTI project addresses the need for new electric transmission service: generating sources to customers, and to bolster the western power grid.

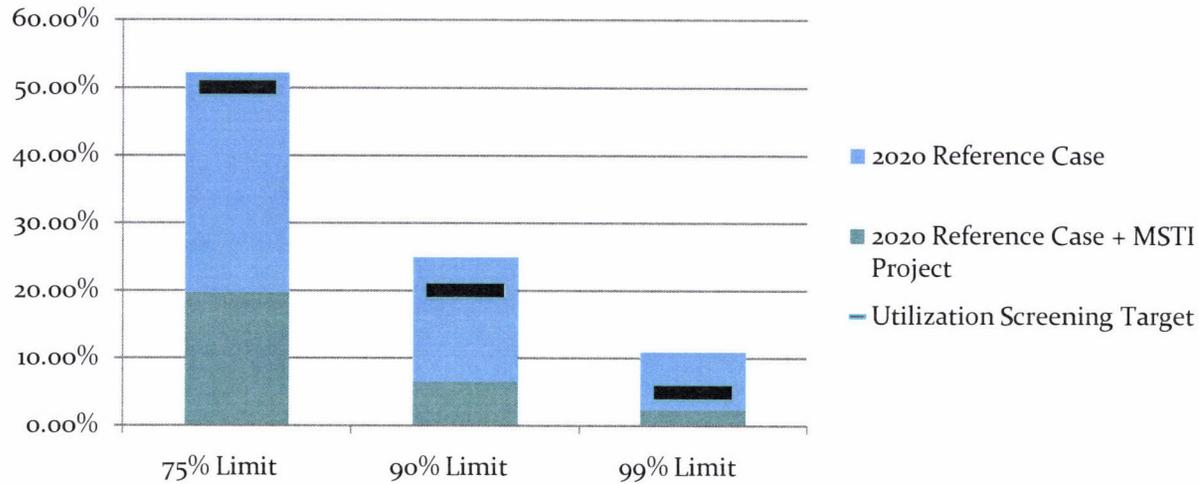
Path 8 Upgrade – A series compensation project that would increase the Path 8 rating from 2200 MW to 2900 MW.

Montana to Northwest Utilization: Chinook



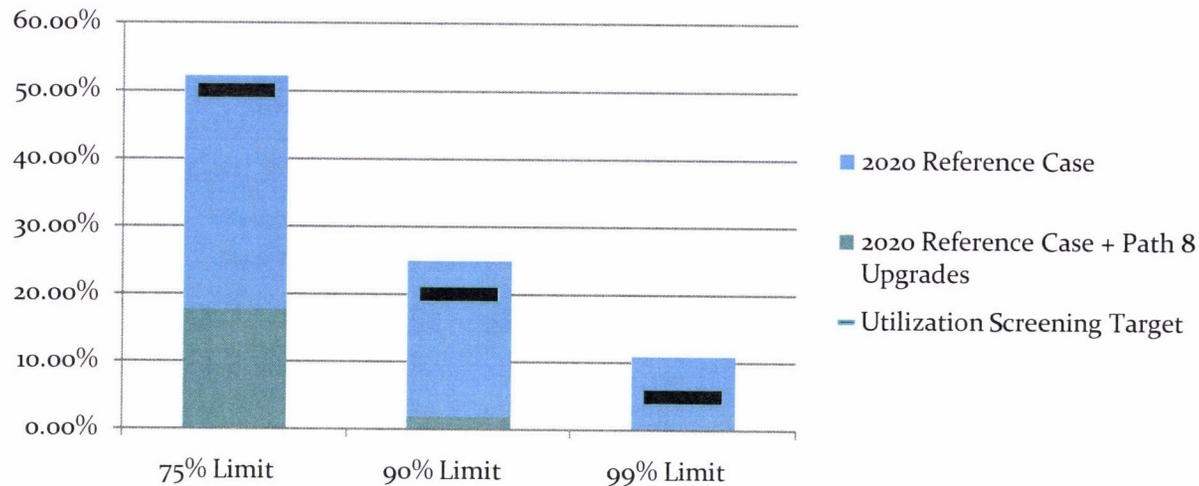
- In addition to reducing the congestion along Path 8, the Chinook project also reduced the WECC-wide average U909 from 5.74 to 5.64 percent.
- The average U75 decreased from 15.08 to 13.63 percent, as well. Overall, the Chinook project was effective at reducing congestion along Path 8 and lowering WECC-wide utilization values.

Montana to Northwest Utilization: MSTI



- The addition of the MSTI project also resulted in the Montana – Northwest no longer passing the utilization screening.
- All three utilization metrics decreased, with more than 30 percent decrease in the U₇₅ metric.
- In the MSTI scenario, the entire WECC-wide U₉₀ average did not show substantial change. With the addition of the MSTI project, the total number of paths that passed the utilization screening did not decrease.

Montana to Northwest Utilization: Path 8 Upgrades



The Path 8 Upgrade project resulted in the greatest decrease in Montana – Northwest utilization metrics. The project effectively increased the east to west limit of the line from 2200 MW to 2900 MW. Path 8 did not pass any of the utilization screenings after the implementation of the upgrades.

The Path 8 Upgrades had no effects on the WECC-wide average U_{90} value, or the number of paths that passed the utilization screening. For those paths that passed the utilization screening in the Path 8 Upgrade Scenario, there were no significant increases or decreases in utilization.

Update on PSC dockets/activities
Presented to Energy & Telecommunications Interim Committee
July 15, 2011

NorthWestern Energy

- PSC Order 7046h in 2009 NWE general rate case. PSC entered into a settlement with NWE and the 3 other parties (MCC, HRC Dist. XI/NRDC, and Large Customer Group) who had sought judicial review of the December 2010 PSC order in the most recent NWE general rate case. Under the terms of the settlement, the PSC agreed to remove decoupling and inverted block rates from the order and to approve a 10.25% electric return on equity, the same level as the natural gas ROE. NWE agreed to reduce electric delivery service rates by \$650,000. The district court remanded the case to the PSC on June 16. On June 28, the Commission issued its Order on Remand that revised the previous order according to the terms of the settlement agreement.
- Mill Creek (now Dave Gates) compliance filing. The PSC approved NWE's construction of the Mill Creek Generating Station in May 2009 and directed NWE to submit a filing within 90 days of the gas plant's beginning commercial operation so the Commission could conduct its final cost review of the plant and establish the revenue requirement to be included in electric rates. Mill Creek began operating on January 1, 2011, and NWE submitted its compliance filing on March 31. According to NWE, the construction cost was \$184.7 million. Another significant issue in the case is the allocation of Mill Creek transmission costs between wholesale and retail customers. (The PSC is also involved in a FERC proceeding on this issue.)
- QF-1 docket. The PSC held a hearing in this matter last week. In this docket, NWE has proposed what the tariffed rates should be for small qualifying facilities (QFs) that provide electricity to NWE under federal PURPA rules and state law. The rate must be based on avoided cost. The PSC should issue its order in a few months.
- QF Petition for Declaratory Ruling. NorthWestern has implemented new tariff language in QF contracts which explicitly allows the utility to curtail energy during periods of light use, and in a July 8 petition is asking the PSC to rule that this language coheres to state and federal law. Small renewable developers contend the new language makes their projects unable to obtain financing.
- Spion Kop wind project. In May, NWE filed an application for PSC pre-approval of its purchase of the Spion Kop wind project. Spion Kop is planned to be a 40-MW wind project made up of 25, 1.6-MW turbines located in Judith Basin County, to be in operation by the end of 2012. NWE estimates its cost will be about \$86.1 million and the levelized rate for Spion Kop electricity will be about \$54/MW. The PSC is in the early stages of this case.
- Petition for waiver from full compliance with the Community Renewable Energy Project purchase obligation. Just starting to process this case that was filed June 30. *3 year waiver*
- Electric and natural gas biennial supply procurement plans. PSC reviewing both plans prior to commenting on them. Public meeting on the electricity supply procurement plan is July 26.

- Beginning to process the 2011 electric and natural gas annual tracker cases that were filed in May.

Montana-Dakota Utilities

- Electric rate case. MDU filed this rate case in August last year. MDU originally requested a \$5.5 million rate increase (overall 13% rate increase), which was later revised downward to \$4.9 million. Drivers for the rate case were: costs for two wind projects; development costs for Big Stone 2 and two other projects that did not pan out; and significant reduction in revenue from wholesale electricity sales. MDU and the parties in the case filed a stipulation that they propose to resolve the issues in the case. It provides for an electric rate increase of \$2.6 million (which is a decrease of approximately \$13,000 from current interim rates). The PSC held public meetings in Sidney and Miles City and recently held the technical hearing on the stipulation in Helena.

Energy West Montana

- General rate case. Energy West filed a rate case last fall seeking a rate increase of \$363,316, later revised downward to \$200,795. The hearing was held this week in Great Falls.

Proposed sale & transfer of Park Water Co., owner of Mountain Water, to Carlyle Infrastructure Partners

The Commission formally asserted jurisdiction in this matter in late June. The contested case process is in the initial discovery stage; the Commission will probably issue a final order in the fall. (Sale price = \$102 million)

Telecom

- Merger of Century Link & Qwest. The Montana PSC approved the merger of Century Link (which was CenturyTel serving the Flathead area) and Qwest in December 2010. The PSC order included a requirement that the merged company must spend a minimum of \$10 million over five years for broadband investment in its Montana service territory. The merger was completed in April of this year.

- Eligible telecommunications carrier applications. Federal law provides that a telecommunications carrier may receive support from the federal universal service fund if it is designated as an "eligible telecommunications carrier" (ETC) by the state commission where they intend to serve. Federal law and Montana PSC rules govern ETC designations in Montana. The Commission is currently considering petitions for ETC designation from two companies, iSmart and Nexus Communications. A twist on these pending petitions is that the petitioners are seeking only low-income support from the universal service fund, not the more comprehensive support from the high-cost fund.

- FCC USF and intercarrier compensation reform. Speaking of the federal universal service fund, or USF, the FCC has proposed reforming the USF and the inter-related intercarrier compensation regime. The FCC's reform goals are to: shift the focus away from voice to affordable broadband; control the size of the fund and reduce waste and inefficiency; and require accountability from recipients. In 2010, 25 Montana carriers received \$86 million in high-cost USF support. The Commission invited telecom carriers to help shape the Montana PSC's

comments on the FCC's proposed reforms. We held two well-attended roundtables on the subject in April and May and also received written comments. The Commission filed reply comments with the FCC in May. The thrust of our comments was that the loss of USF and intercarrier compensation support, if the FCC proposals take effect, will have catastrophic financial impacts on Montana's rural local telephone companies. We supported the comments made by the national rural telephone organizations as well as their alternative reform plan that takes more of a measured, incremental approach.

Other

- Participating in regional transmission activities, such as Midwest ISO and Northern Tier Transmission Group

- Implementing SB 140. Senate Bill 140 was passed by the 2011 Legislature and took effect in April. It defines "charter service" and exempts certain motor carriers from regulation. The PSC must issue a certificate of public convenience and necessity authorizing charter service to motor carriers that can demonstrate by October 18, 2011, that they currently offering charter service. that authorizes charter service to motor carriers currently offering this type of service. The Commission has notified all motor carriers of this new law and its requirements that may apply to them. After July 1, 2012, charter service providers must obtain a certificate of public convenience and necessity from the Commission.

-One-Call Legislation. Commission will continue to seek legislation on a state level in line with federal standards established by PHMSA (Pipeline and Hazardous Materials Safety Administration). In the absence of a state law, the federal government will preemptively establish regulations.