



Total Monthly Fuel Cost

Associated Valley Industries
November 18, 2016

Topics for Discussion

- Total Monthly Fuel Cost – Performance Evaluation
 - Standard Service – estimated to be 1% - 2% higher
 - B,C,D – estimated to be ~ 3% lower
- December Total Monthly Fuel Cost
- Watts Bar Unit II Outage – Replacement Power Costs

Total Monthly Fuel Cost Performance Evaluation

TMFC Performance Evaluation

- Performance evaluation to be completed for all aspects of October 2015 wholesale rate change
- The evaluation for the total monthly fuel cost was to determine how close the actual changes came to the forecast

	Scale	Not Working Well	Needs Work	Working Well	Working Very Well
Evaluation Criteria	Metric	> 6%	6% > % > 4%	4% > % > 2%	< 2%
SS FCA	% Change from Average				1.5%

	Scale	Not Working Well	Needs Work	Working Well	Working Very Well
Evaluation Criteria	Metric	> 8%	8% > % > 6%	6% > % > 4%	< 4%
BCD FCA	% Change from Average				-3.5%

The performance evaluation of the TMFC is working very well

Performance Evaluation

- The actual FCA results were in line with those which were predicted

Input Month	Sep-2016	12
Core Fuel Forecast MTD		Core Fuel Forecast FYTD
SS	18.43	SS 18.46
Avg	18.05	Avg 18.16
BCD	16.88	BCD 17.40
Actual Fuel Expenses MTD		Actual Fuel Expenses FYTD
SS	22.01	SS 20.01
Avg	21.59	Avg 19.75
BCD	20.29	BCD 18.99
Actual TMFC MTD		Actual TMFC FYTD
SS	21.80	SS 19.44
Avg	21.12	Avg 19.15
BCD	19.99	BCD 18.47
Actual TMFC MTD		Actual TMFC FYTD
SS	3.2%	SS 1.5%
Avg		Avg
BCD	-5.4%	BCD -3.5%

Input Month	Dec-2016	15
Core Fuel Forecast MTD		Core Fuel Forecast FYTD
SS	20.77	SS 18.62
Avg	20.56	Avg 18.33
BCD	20.08	BCD 17.62
Actual Fuel Expenses MTD		Actual Fuel Expenses FYTD
SS	20.77	SS 20.01
Avg	20.56	Avg 19.75
BCD	20.08	BCD 19.03
Actual TMFC MTD		Actual TMFC FYTD
SS	22.57	SS 19.92
Avg	22.51	Avg 19.64
BCD	21.96	BCD 18.95
Actual TMFC MTD		Actual TMFC FYTD
SS	0.3%	SS 1.4%
Avg		Avg
BCD	-2.4%	BCD -3.5%

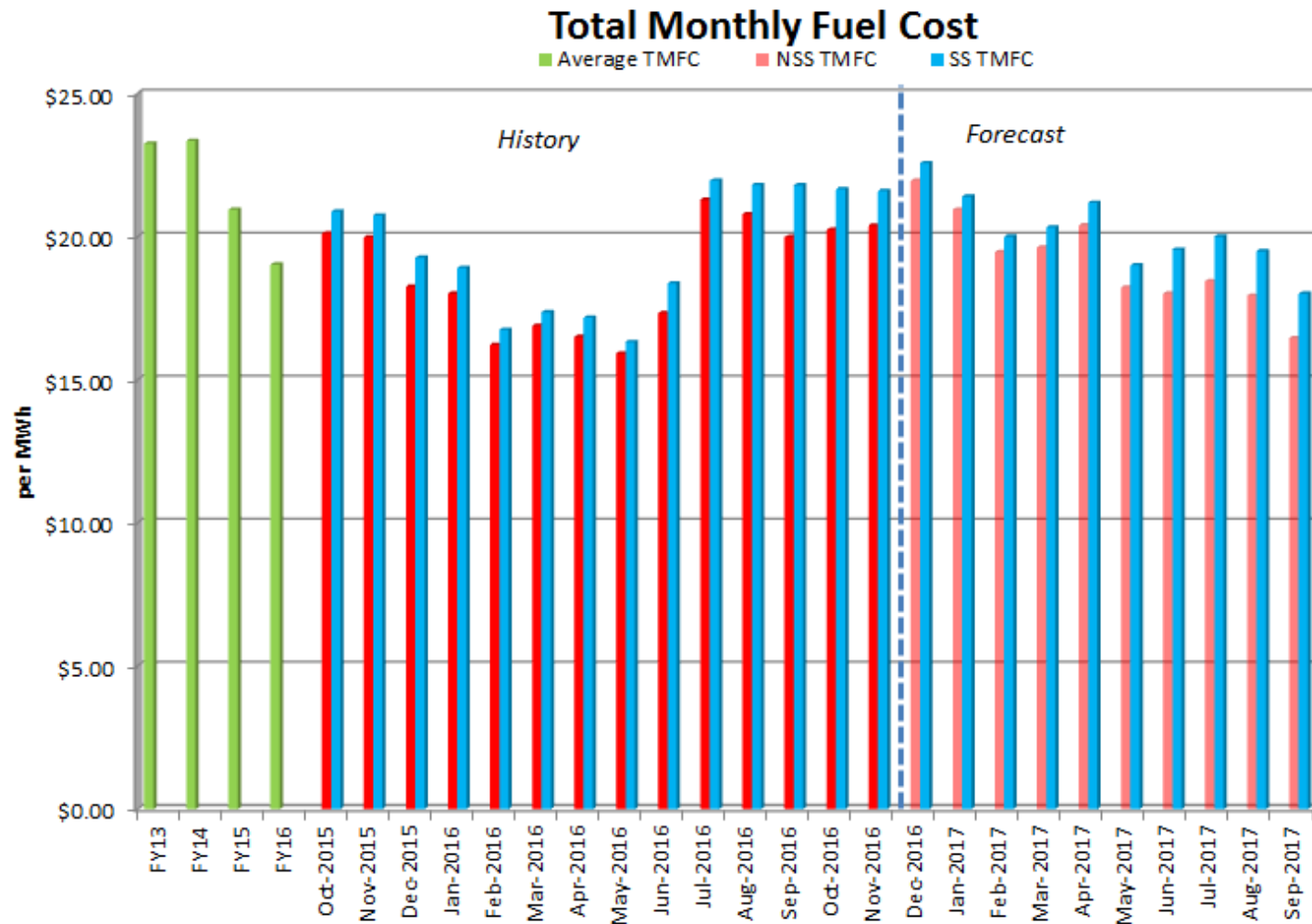
TMFC 15 months to date has been less than \$0.02 per kWh

December 2016 Total Monthly Fuel Cost

Total Monthly Fuel Cost – December 2016

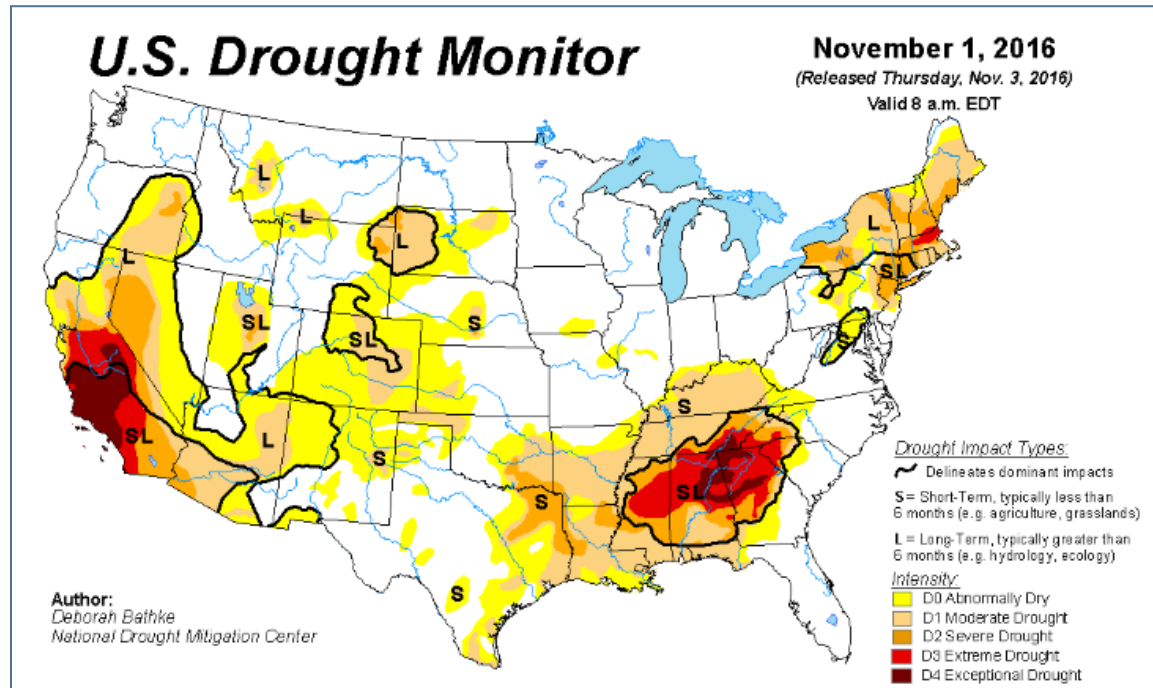
- The TMFC for December 2016 will be:
 - Standard Service – 2.257 cents per kWh
 - B,C,D Service – 2.196 cents per kWh
- December 2016 TMFC will be the highest since the new methodology (cost allocation) was implemented in October 2015
- The overall system average fuel rate is approximately 15% higher than the three year average December FCA
- Although higher than recent TMFC, the 15 month ending fuel cost is less than 2.0 cents per kWh

Total Monthly Fuel Cost – December 2016



Although higher than this time last year, TVA's 15 month running fuel costs have been less than \$0.02 per kWh; forecast predicts more of the same

United States Drought Map



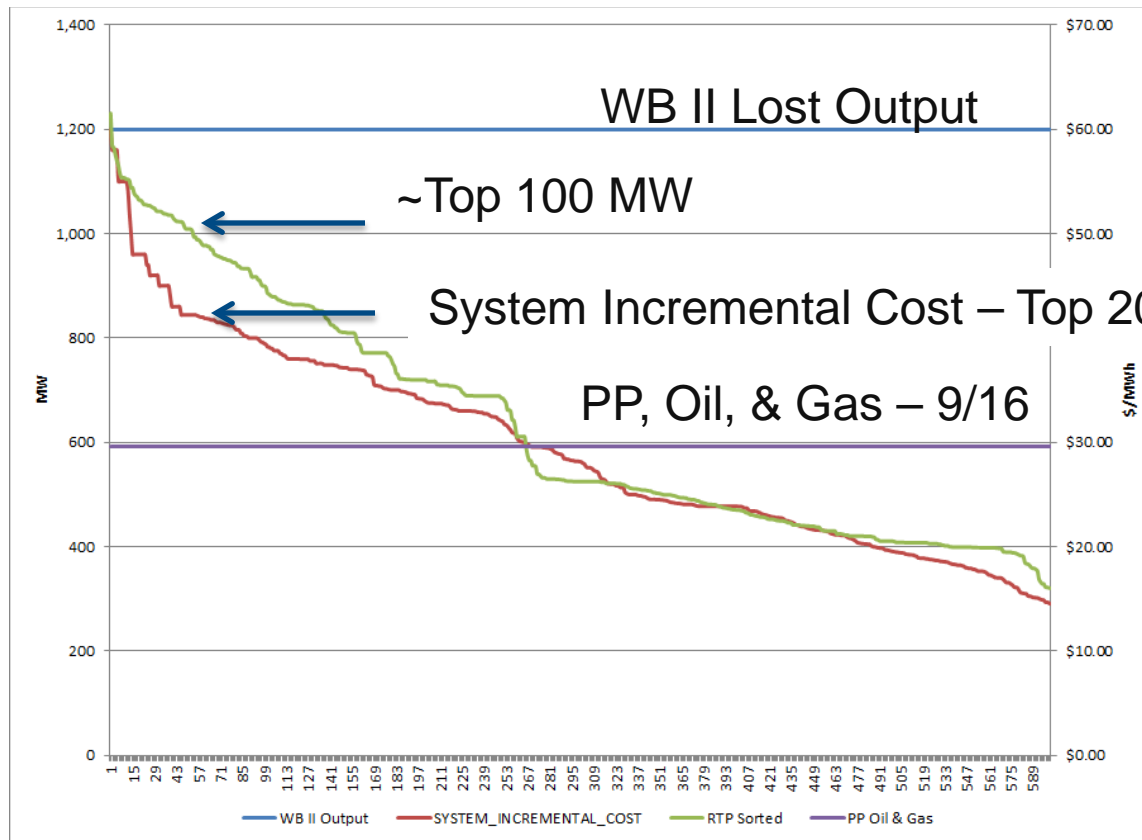
- Drought conditions have played a significant role in recent higher fuel costs
- The map above shows continued deterioration of drought conditions in south and southeast
- Dry conditions and above average temperatures have prevailed further impacting soil moisture and agriculture

November 2016 Total Monthly Fuel Cost

Watts Bar Unit II – Impact on Fuel Costs

- Transformer fire occurred on August 30, 2016
- Unit II was shutdown safely; Unit I continued to run
- Unit II was expected to be available during September and was included in generation forecast (and total monthly fuel cost)
- During September Watts Bar Unit II did NOT run
- What was the cost of replacement power?
- How much additional cost did it add to the November FCA?

Watts Bar Unit II – Replacement Costs



Replacement power costs were between \$16 and \$18 million

Impact to Nov. (Dec.) total monthly fuel cost
~\$8.5 (\$4.25) M

- High Case - ~\$17.5 M Top 100 MW
- Least Case - ~\$16 M System Dispatch Cost