

BPA Transmission Southern Intertie Hourly Non-Firm Workshop

September 29, 2015



Agenda

- Statement of the Issue (Customer Prospective)
- Comments on Process and Workshop Timeline
- Comments on the Draft Principles
- Southern Intertie Utilization (N to S flows)
- Southern Intertie Queue and Long Term Rights Status
- Comparison of the Scheduling Practices timeline
- Impact to LTF Transmission Rights Holders

Statement of the Issue

What we heard from Customers

- Customers are increasingly concerned that long-term firm transmission no longer has the value that it once had and some customers are not renewing service and are removing requests from the queue. Some customers also expressed concern that an equitable share of the economic benefits derived from markets served by the Southern Intertie remains with Northwest parties that purchase long-term service over the intertie. BPA wants to see what actions (if any) it should take to make sure long-term service remains viable and its customers receive an equitable share of the economic benefits provided by the Southern Intertie.

Comments on Process, Workshop Timeline, and Draft Principles



Process

- Similar to Regional Segmentation Process prior to BP-16 rate case
- Work with stakeholders to develop principles
- Benchmark how other TPs have treated seams issues
- Seek alternatives from stakeholders
- Develop white paper which includes:
 - Analysis of alternatives by BPA (T and P staff)
 - Stakeholder evaluation of the alternatives
- This discussion will inform the decision on whether to hold a “mini” 7i prior to BP-18

Timeline

- **September through October** – workshops to develop and evaluate alternatives.
- **November** – develop regional white paper on alternatives.
- **December** –white paper out for comments.
- **January** – BPA will share its proposed solution(s) on the seams issue.
 - If a rate proposal is chosen, there will be a discussion on whether a new rate needs to be in place before the BP-18 rates.

Future Workshop Date Options

Month	Date Options
September 2015	9/29 (T)
October 2015	10/14 (W) ; 10/15 (Th.) 10/20 (T); 10/27 (T)
November 2015	11/10 (T); 11/12 (Th.) 11/17 (T); 11/18 (W)
December 2015	12/2 (W) 12/17 (Th.)
January 2016	1/5 (T) - new 1/13 (W) 1/21 (Th.)

Red = chosen workshop date

Customer Comments on Process and Timeline

- Process
 - BPA should share its views early in the process.
 - The problem/issue statement should be clearly defined.
- Timeline
 - Two conflicting comments were received on the workshop timeline.

Draft Principles

▪ Rate Criteria:

- Set rates and policies consistent with statutory requirements
 - Full and timely cost recovery
 - BPA's rates are based on total system costs
 - Equitable cost allocation between Federal and non-Federal uses of the transmission system
 - Encourages the widest possible diversified use of electric power at the lowest possible rates to consumers, consistent with sound business principles
- Set rates consistent with ratemaking principles
 - Cost causation
 - Consistent with statutory obligations and minimize compliance risk
 - Simplicity, understandability, public acceptance and feasibility of application
 - Avoidance of rate shock
 - Rate stability from rate period to rate period
- Considerate of seams issues with California
 - Preserve the value of BPA transmission products and ensure their long term viability
 - Minimize adverse impacts on BPA transmission customers of seams issues with other transmission providers and path operators on the COI and PDCI.
 - Takes in account the effect of NW Market development.

Draft Principles

▪ Non-Rate Criteria:

- Consistent with statutory obligations and minimizes compliance risk
- Consistent with desired future state of BPA business and policy – Does the decision support the longer term direction of BPA with regards to its policies and practices?
- Ability to implement both from a BPA technical perspective and from the customer's perspective. – Options provided herein will have implications for the ability to implement both from a technical standpoint, but also from a customer process and communication standpoint.
- Supportability – Ongoing costs (if any) associated with maintenance and system upgrades.
- Considers impacts to different customers
- Considers impacts to reliable operations
- Financial – Implementation – Options presented may have significantly different implementation costs associated with them.
- Financial – Revenue

Customer Comments on Draft Principles

- Received one request to expand the list of principles to include:
 - FERC approved Open Access principles
 - Recognition of Clean Power Plan/Carbon Polices
 - Impact on competition

Southern Intertie Utilization (N to S Flows)



Southern Intertie Flow Data

- Please see appendix for charts showing Southern Intertie flow data from 2010 – 2014. Charts show average unused capacity on AC and DC lines North to South during that period
- Flow and Standard Operating Limit (SOL) data is based on hourly SCADA data. Unused capacity defined as SOL – Measured flows
- Data summary

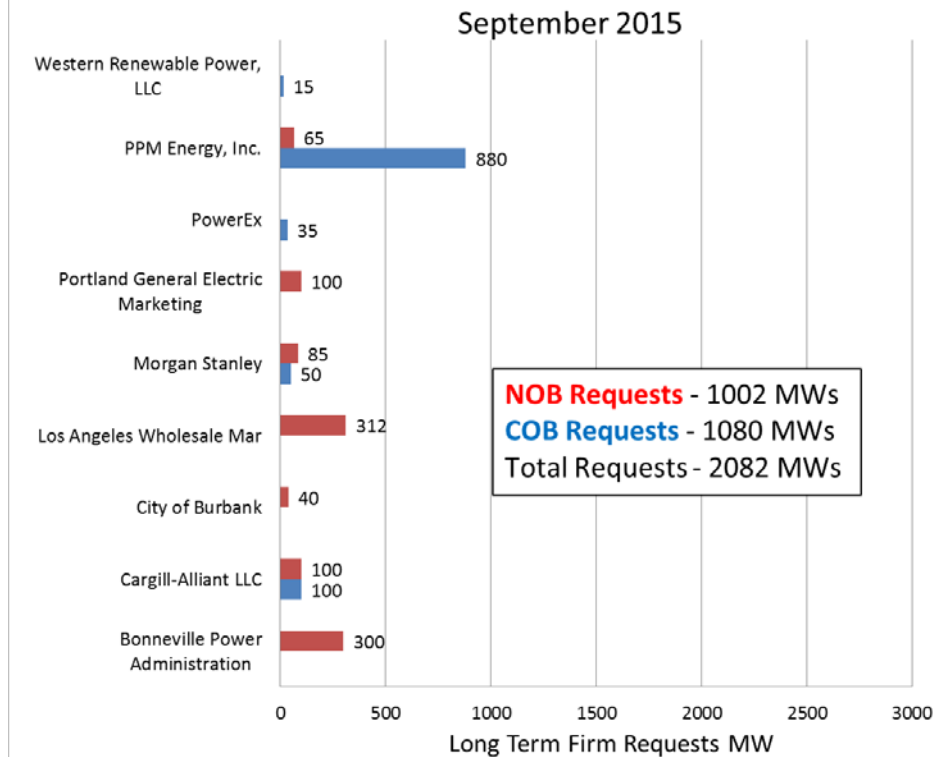
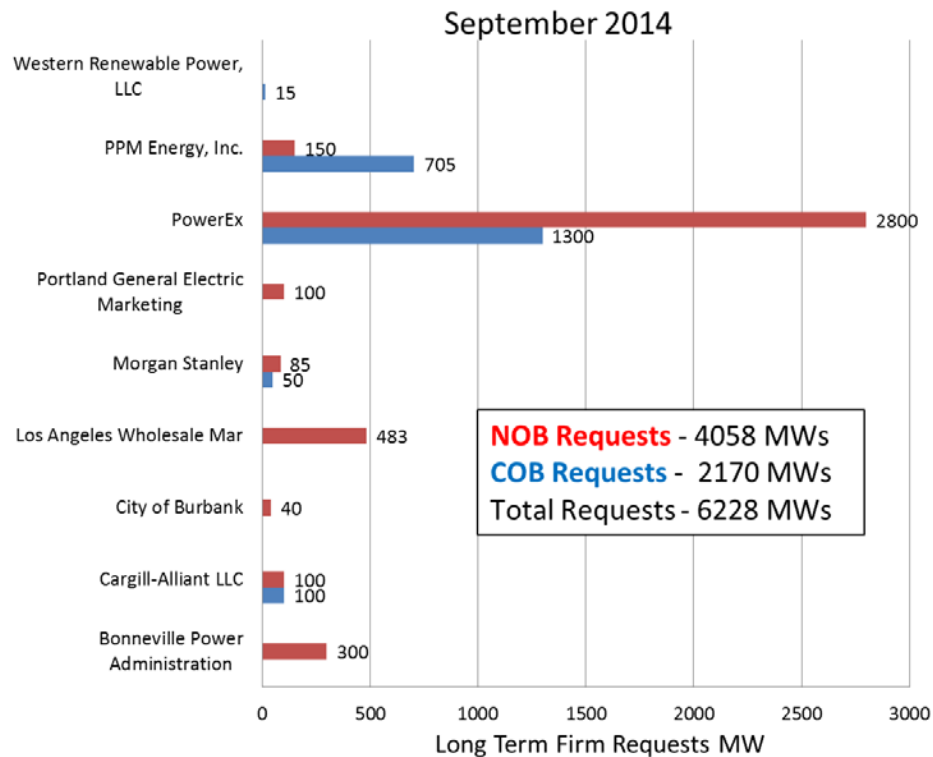
	AC	DC
Average Unused Capacity	1,494 MW	1,228 MW
% of hour flows over SOL	0%	0%
% of hours SOL de-rated by 10% or more	63%	23%
% of hours 1000 MW or greater of unused capacity	63%	51%

Note these flows are not associated with specific schedules and sales. BPA is working on analyzing scheduling data for a future workshop.

Southern Intertie Queue and Status of Long Term Rights



Southern Intertie Long Term Firm Queue

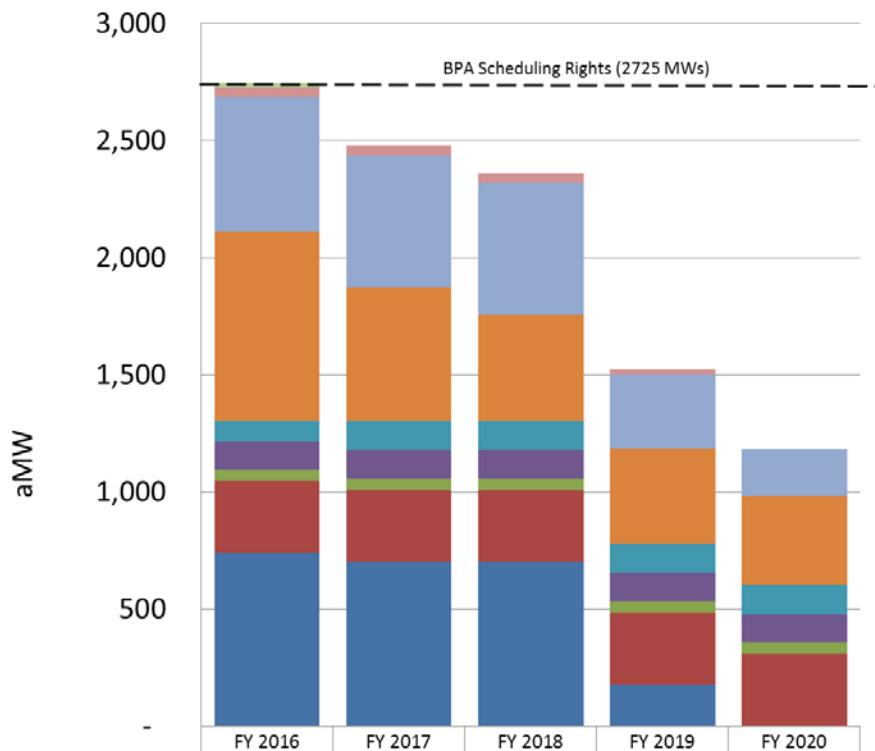


Reason For Removal From Queue	MWs
Requests Withdrawn	- 4065 MWs
Offers Declined	- 85 MWs
Within 60 Days of Stop Date	- 171 MWs
Incremental Requests	175 MWs
September 2015 Queue - September 2014 Queue	- 4146 MWs



Long Term Firm Scheduling Rights N>S to California Oregon Border

Confirmed Long Term Rights N>S to COB



	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
PacifiCorp	15.5	0	0	0	0
TransAlta Energy Mktg US	42	42	42	25	-
PWX	574	563	563	317	202
PPM Energy, Inc.	810	573	452	408	380
Morgan Stanley	87	124	124	124	124
Exelon Generation, LLC	120	120	120	120	120
Coral Power L.L.C.	50	50	50	50	50
Calpine Energy Services	308	308	308	308	308
Bonneville Power Administration	738	700	700	175	-

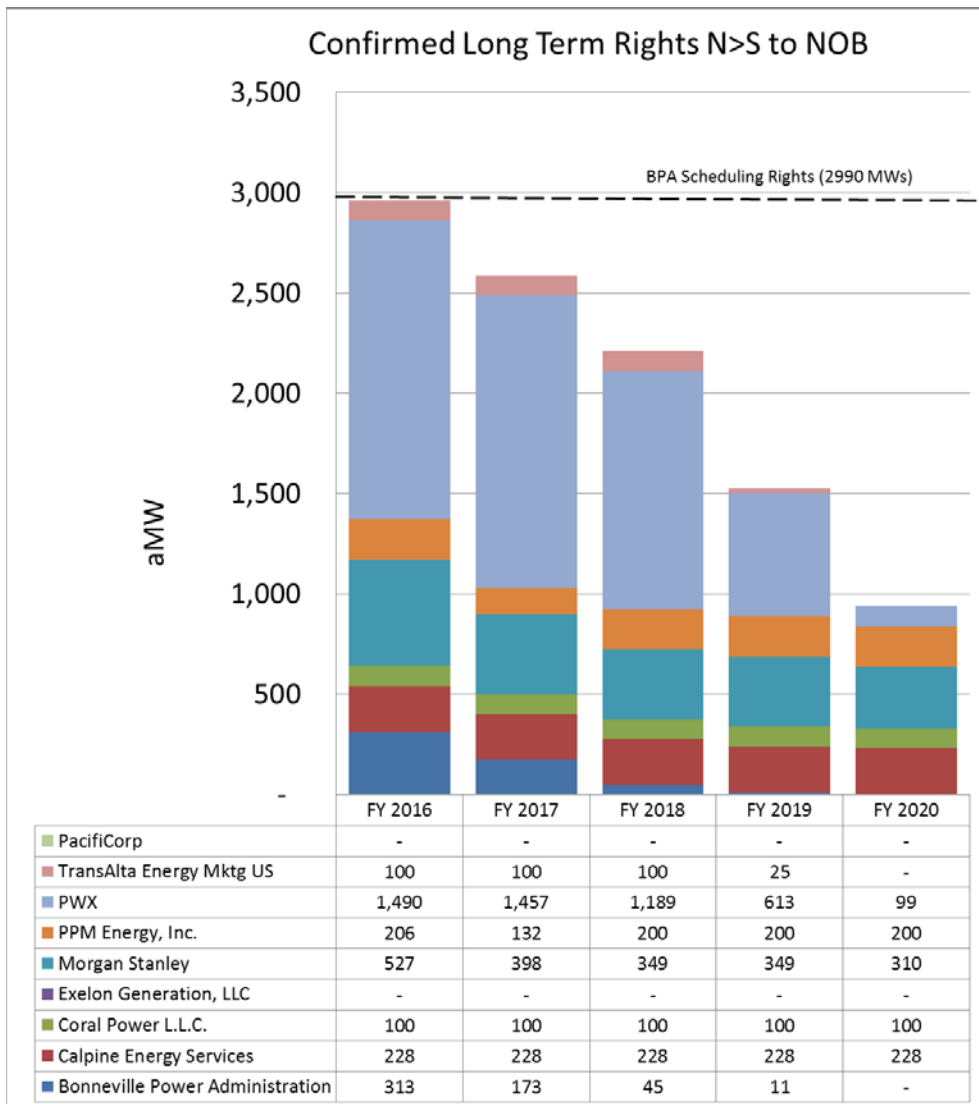
N>S to COB Upcoming Renewal Timeline

Fiscal Year	Customer	Service Up for Renewal*	Confirmed Service Starts
2016	Bonneville Power Administration	50	
	Morgan Stanley	74	124
	PacifiCorp	93	0
	PPM Energy, Inc.	100	100
	PWX	50	35
2017	Bonneville Power Administration	700	700
	PPM Energy, Inc.	358	
2019	Bonneville Power Administration	700	
	PPM Energy, Inc.	72	
	PWX	328	
	TransAlta Energy Mktg US	42	
2020	PWX	200	
Total		2767	959

* Not all contracts have rollover rights.



Long Term Firm Scheduling Rights N>S to Nevada Oregon Border



BEK>NOB Upcoming Renewal Timeline

Fiscal Year	Customer	Service Up for Renewal*	Confirmed Service Starts
2016	Bonneville Power Administration	60/15	15
	Morgan Stanley	237	277
	PPM Energy, Inc.	27	50
	PWX	50	
2017	Bonneville Power Administration	300	45
	Morgan Stanley	276	85
	PPM Energy, Inc.	215	200
2018	PWX	357	
2019	Bonneville Power Administration	45	
	PWX	650	
	TransAlta Energy Mktg US	100	
2020	Morgan Stanley	39	
	PWX	401	
Total		2757	672

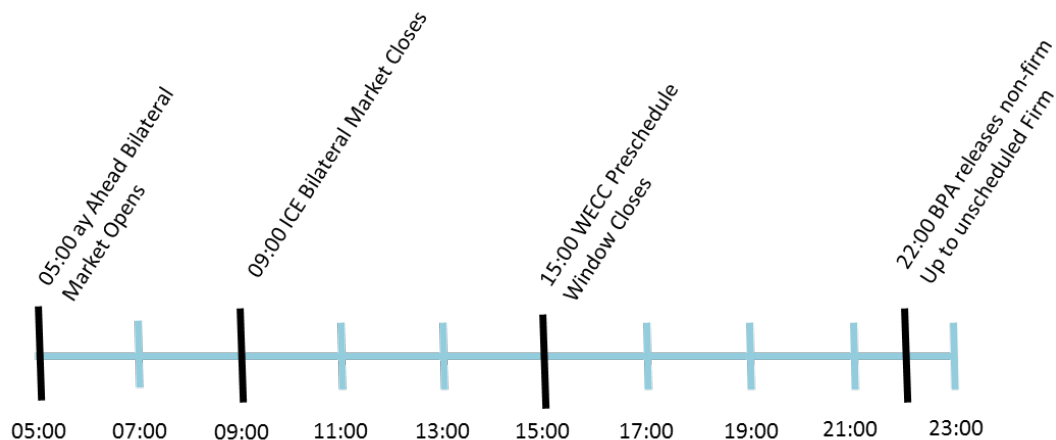
* Not all contracts have rollover rights.



Comparison of Scheduling Practices

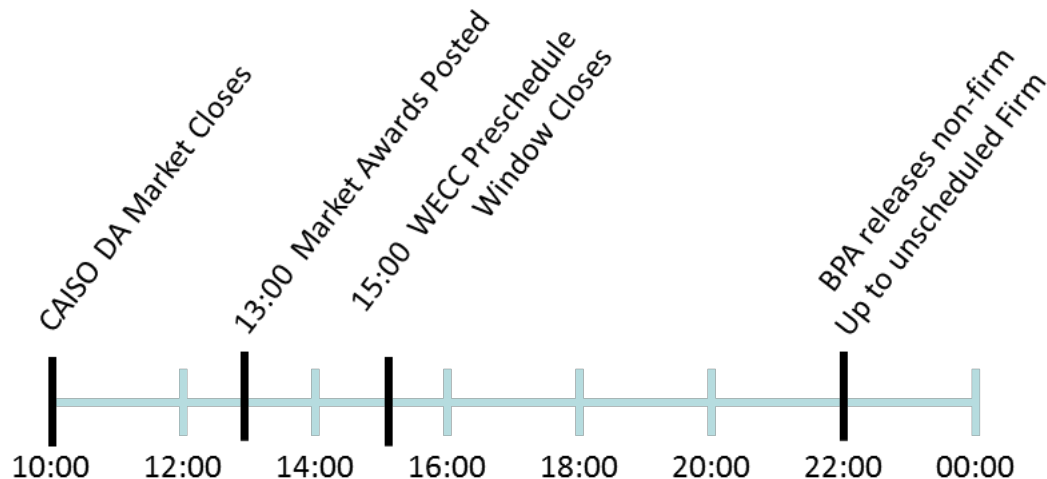


Bilateral Day-Ahead Market Timeline



- Bilateral trades take place beginning at 05:00.
- At 09:00 ICE Bilateral Market closes.
- Day-Ahead deals are tagged prior to the close of the WECC preschedule window.
- At 22:00 BPA releases unscheduled Firm Transmission as hourly non-firm transmission.

CAISO Day Ahead Market Schedule Timeline



- The California ISO Day Ahead Market Bid Submission is due at 10:00¹.
- The market awards are posted at 13:00¹.
- California ISO DAM awards are required to tag T-20 minutes prior to flow², not by the close of the WECC Preschedule Window at 15:00.
- At 22:00 BPA releases unscheduled Firm Transmission as hourly non-firm transmission.

¹ CAISO. Business Practice for Market Operations, § 7.2.2.1 e-Tagging Timelines and Rules (Version 44).

<http://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Market%20Operations>

² CAISO. Business Practice for Market Operations, § 6.2 Day-Ahead Market Timeline (Version 44).

<http://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Market%20Operations>

Comparison of Scheduling Timelines

- The California ISO Day Ahead Market does not require Day-Ahead awards to be tagged by the close of the WECC preschedule window.
- BPA releases unscheduled long term firm as hourly non-firm at 22:00. This is prior to the California ISO tagging deadline.
- Customers without long term firm rights are able to participate in the Day-Ahead Market, and if awarded, acquire non-firm transmission prior to the California tagging deadlines.

Impacts to LTF Transmission Rights Holders



Expected financial impacts to the Southern Intertie contract holders from BPA actions that increase the value of power exported from the Pacific Northwest

- Firm contract holders that make power sales to the CAISO are expected to receive higher revenues resulting from capturing a higher portion of the price spread between Mid-C and California trading hubs.
- Firm contract holders may receive higher prices and revenues from sales in the firm Southern Intertie transmission resale market.
- Encourage the development of a more liquid long-term firm transmission resale market.
- May increase the cost of purchasing Southern Intertie non-firm transmission, although the amount of additional cost could be offset by more revenue from long-term firm transmission resales.
- May improve the prices received by Northwest parties by reducing/eliminating the amount of bids that exceed the available transfer capability on the interties; which results in congestion charges being levied.
- May improve the amount of sales and/or prices received when there are curtailments and/or derates on the COI and PDCI.
- Overall, an increase in value to the firm Southern Intertie transmission holder is expected, but the impact will vary from one entity to another depending on the amount of sales made to the CAISO, amount of firm transmission sold into the resale market, and amount of non-firm transmission that is purchased.

Next Steps

- By October 9:
 - Provide alternative options and proposals.

- Please send all information to Rebecca Fredrickson via email: refredrickson@bpa.gov

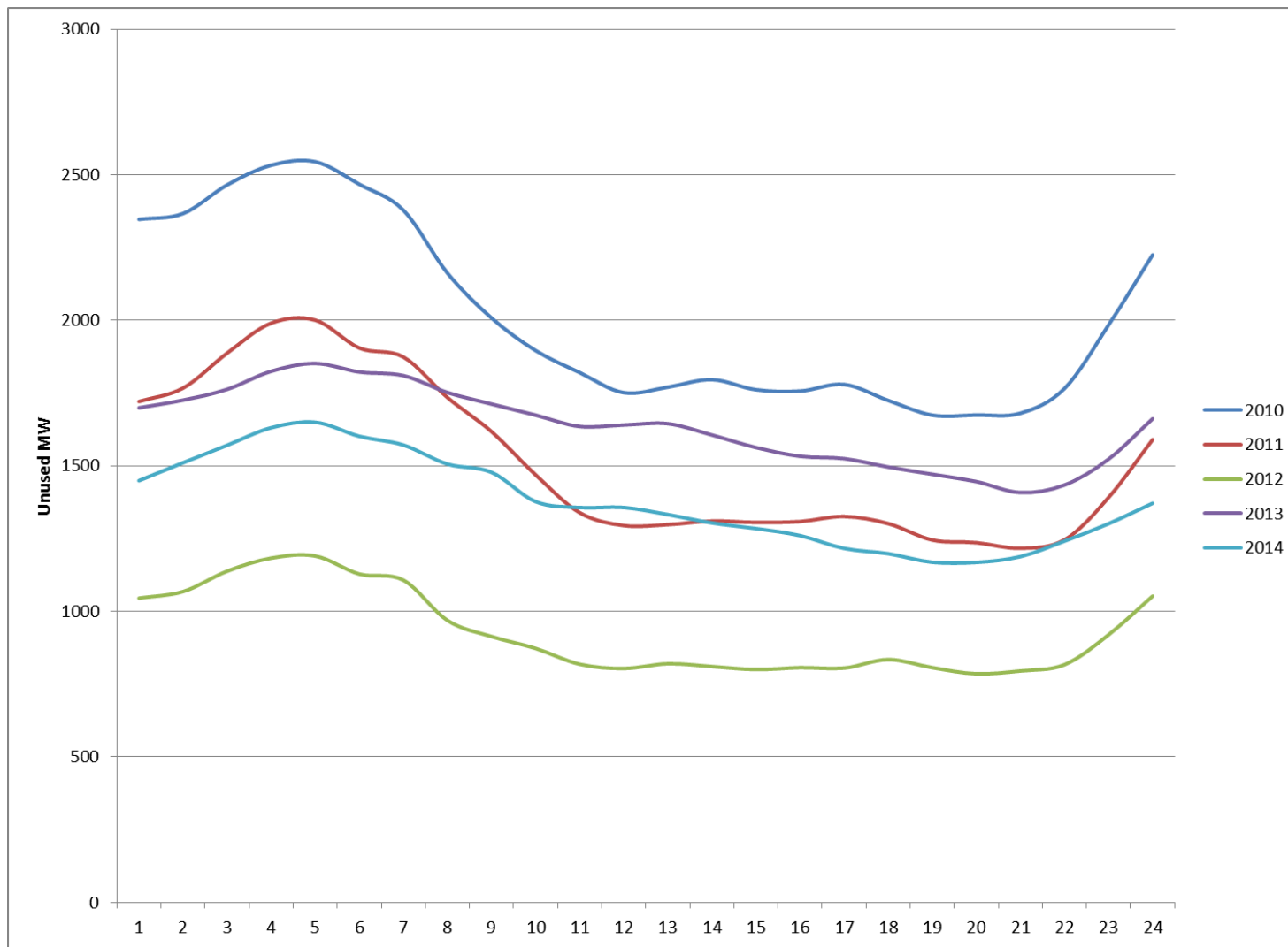
Appendix: Southern Intertie Flow Data 2010-2014



AC Data



Average Unused Capacity – By Calendar Year AC N-S: 24 Hour Profile (2010 - 2014)

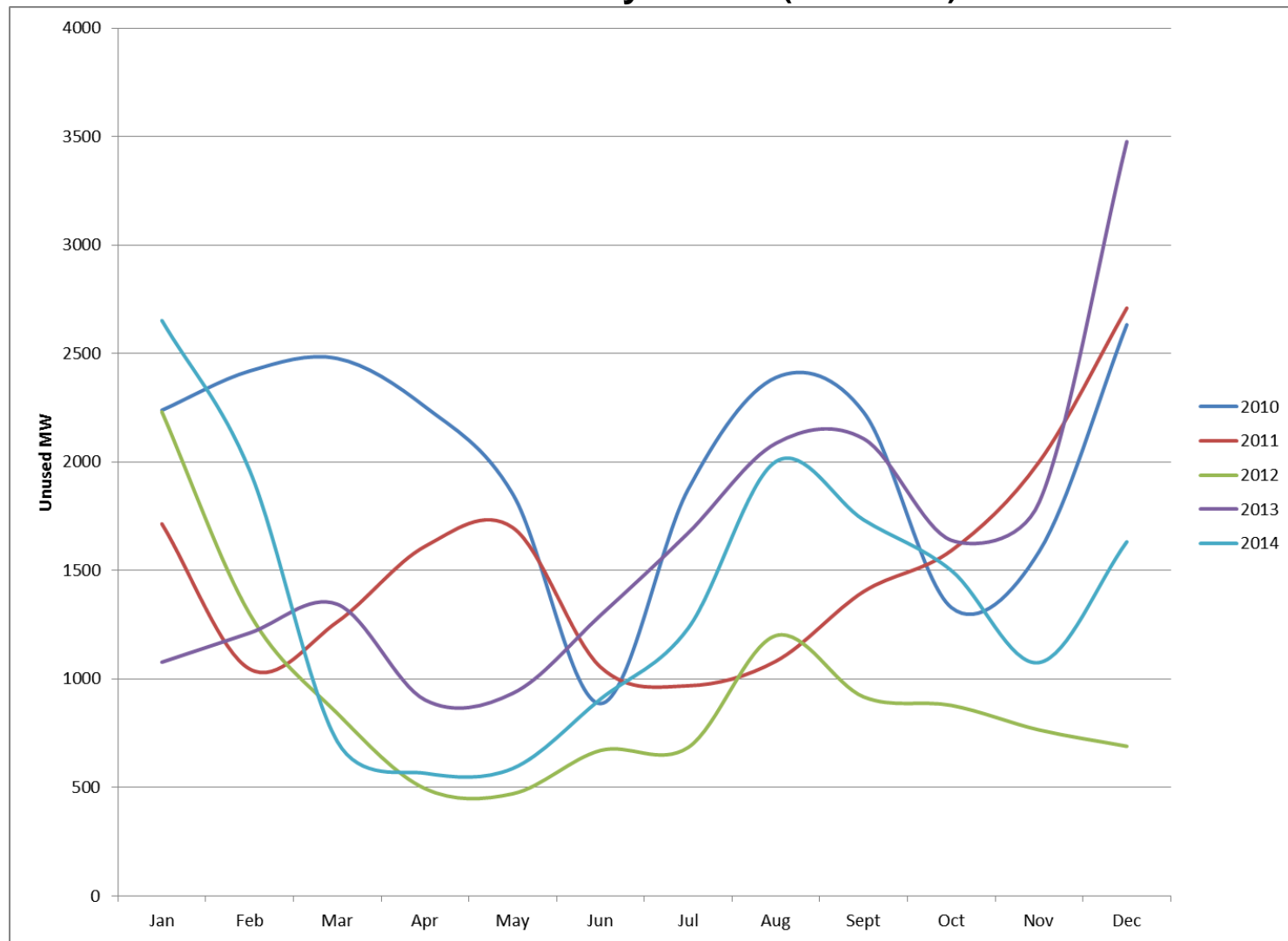


Unused capacity = AC N-S SOL – AC Flows



Average Unused N-S Capacity – By Calendar Year

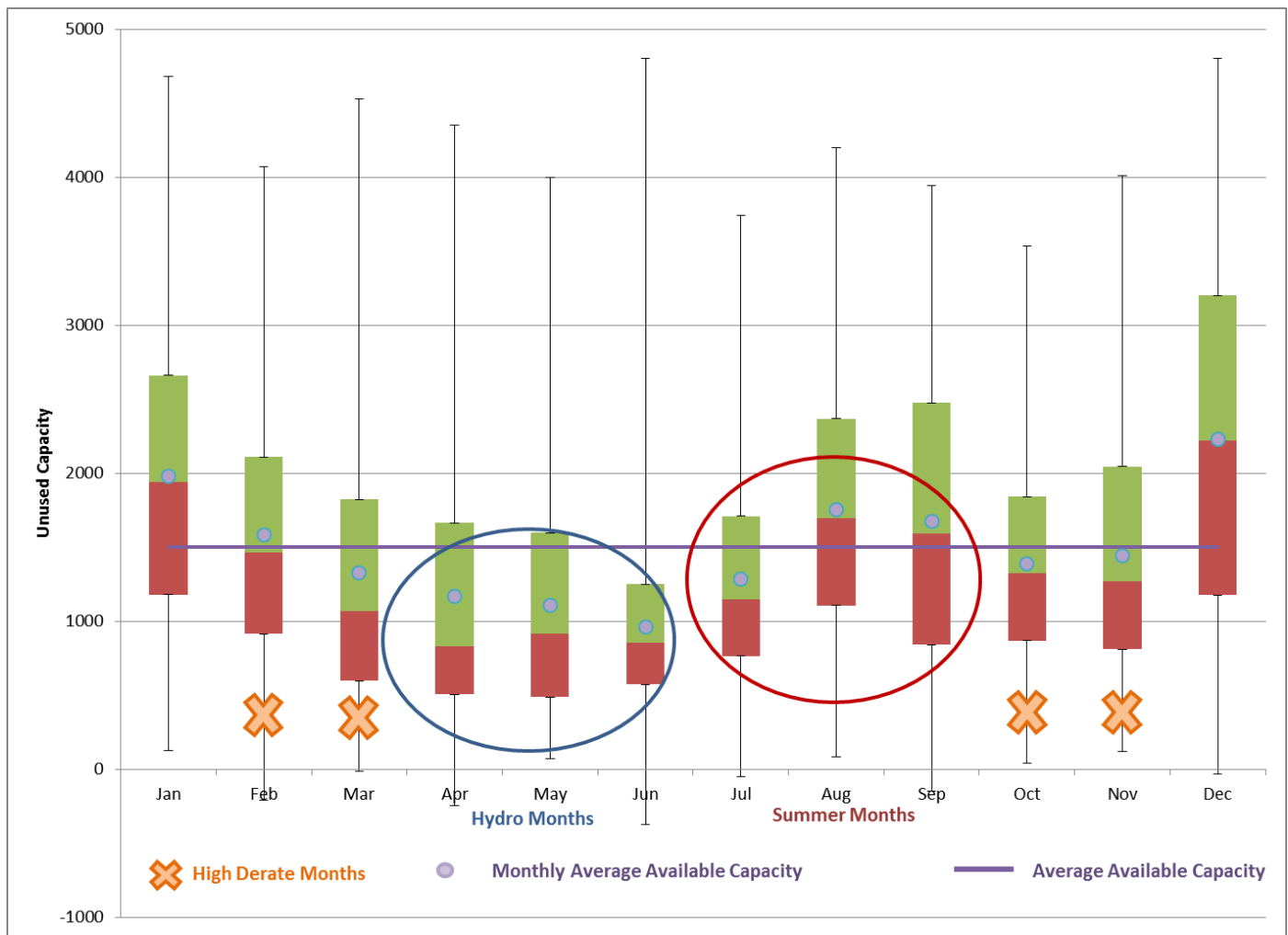
AC N-S: Monthly Profile (2010-2014)



Unused capacity = AC N-S SOL – AC Flows



Seasonality of Unused Capacity AC N-S (2010-2014)



- Box and whiskers show distribution of the five years of data during each month
- Whiskers show the minimum and maximum values for each month.
- The box shows the middle 50% of the data distribution
 - **Red** box shows 25-50%
 - **Green** box shows 50-75%
- Where the **red** and **green** boxes meet indicates the median of the data.
- The **purple** dots show the average available MW during that month from 2010-2014.
- The **purple** line shows the average available MW from 2010-2014 regardless of month.

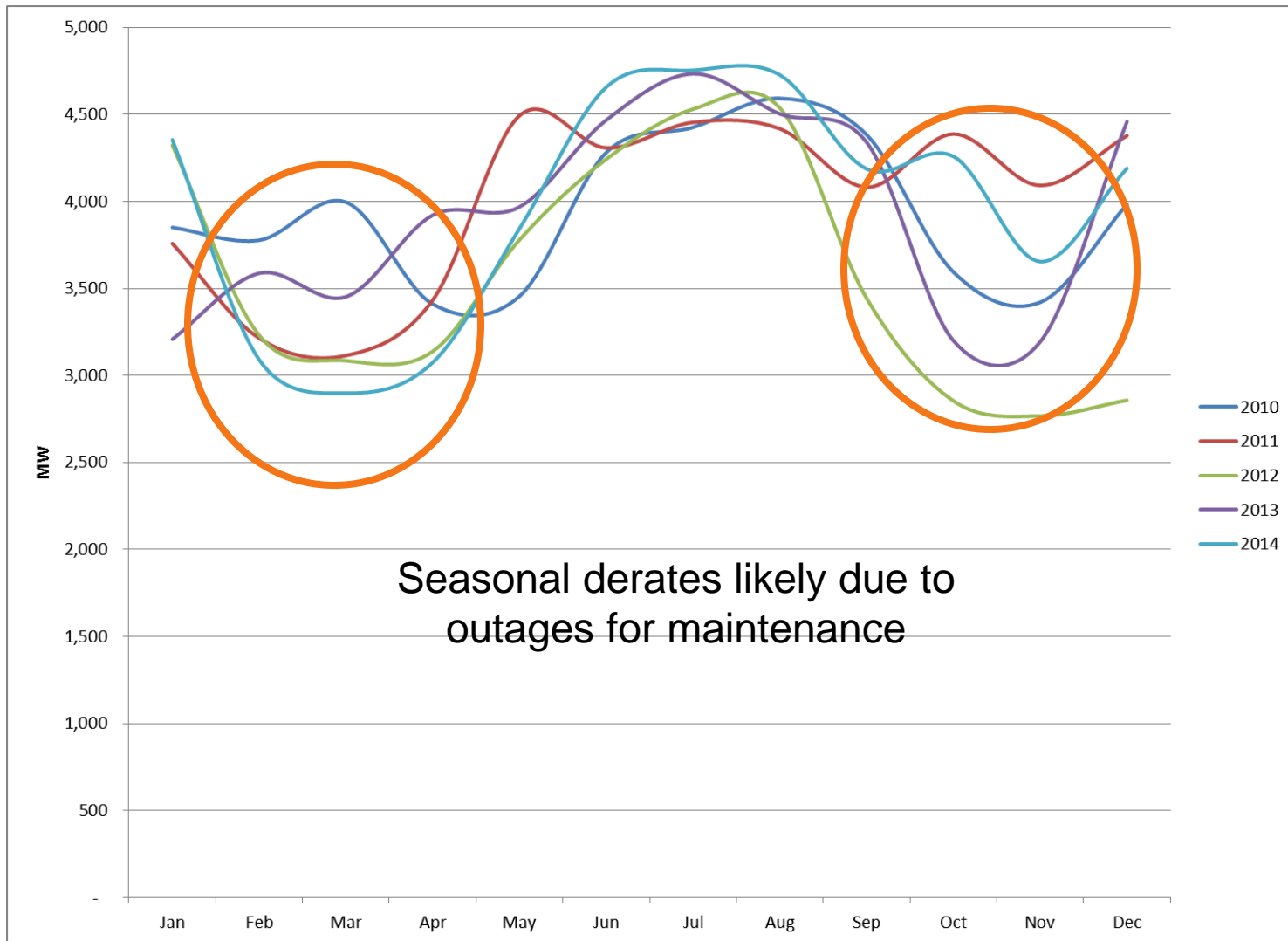
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Monthly SOL Profile – By Calendar Year

AC N-S

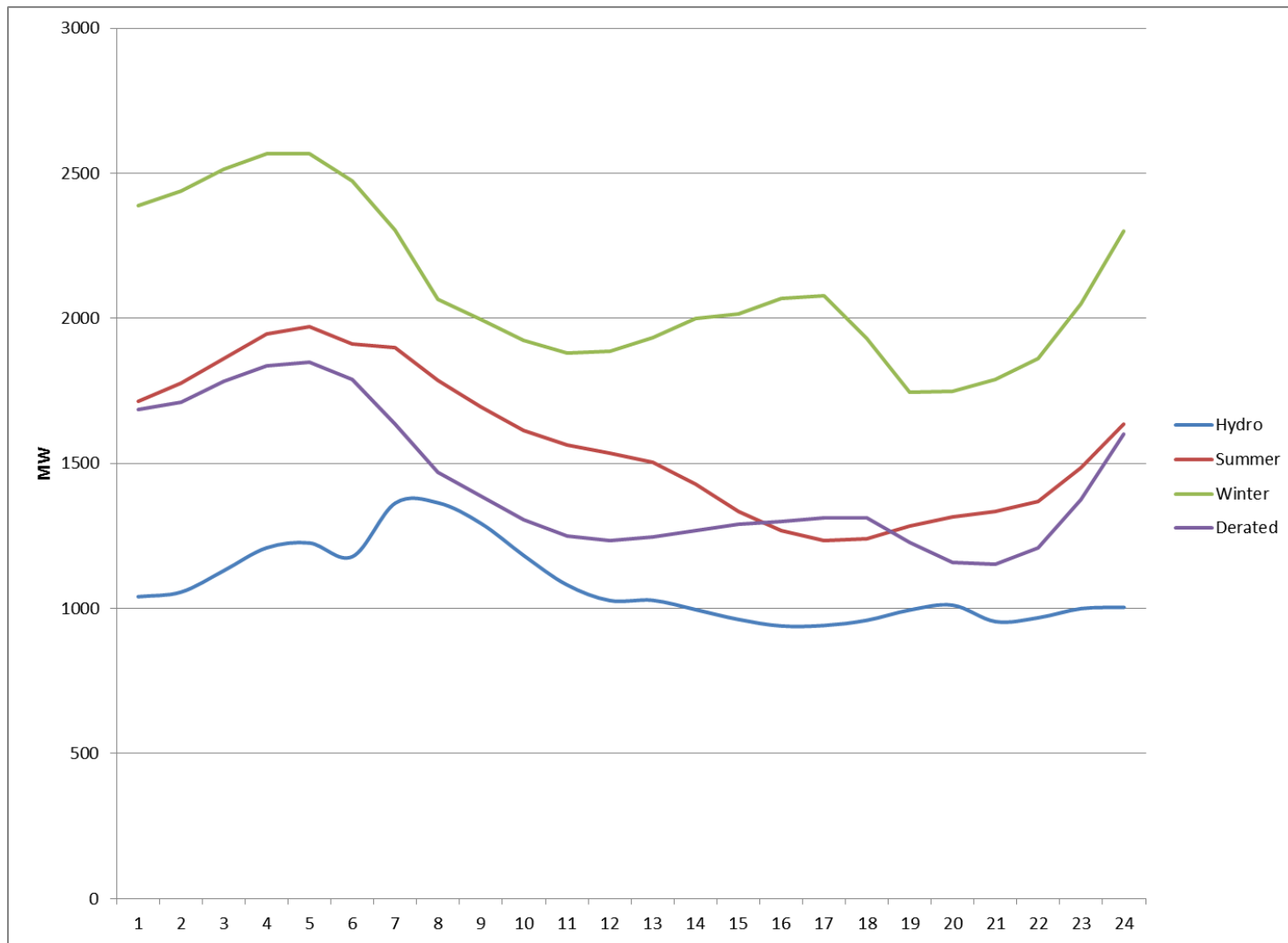
(2010 - 2014)



Seasonal derates likely due to outages for maintenance



Average Unused Capacity – Seasonal Comparison AC N-S: 24 Hour Profile

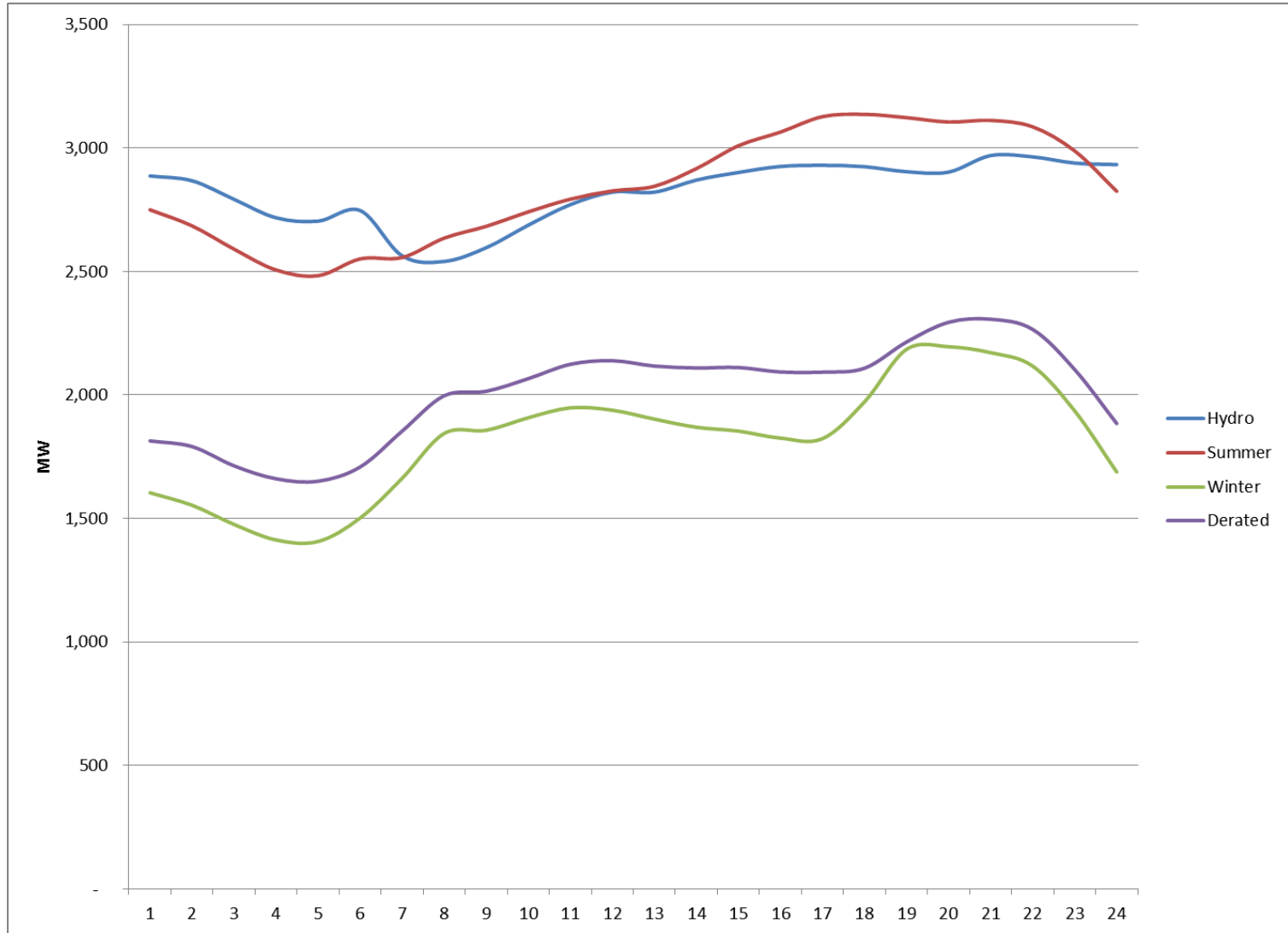


Unused capacity = AC N-S SOL – AC Flows



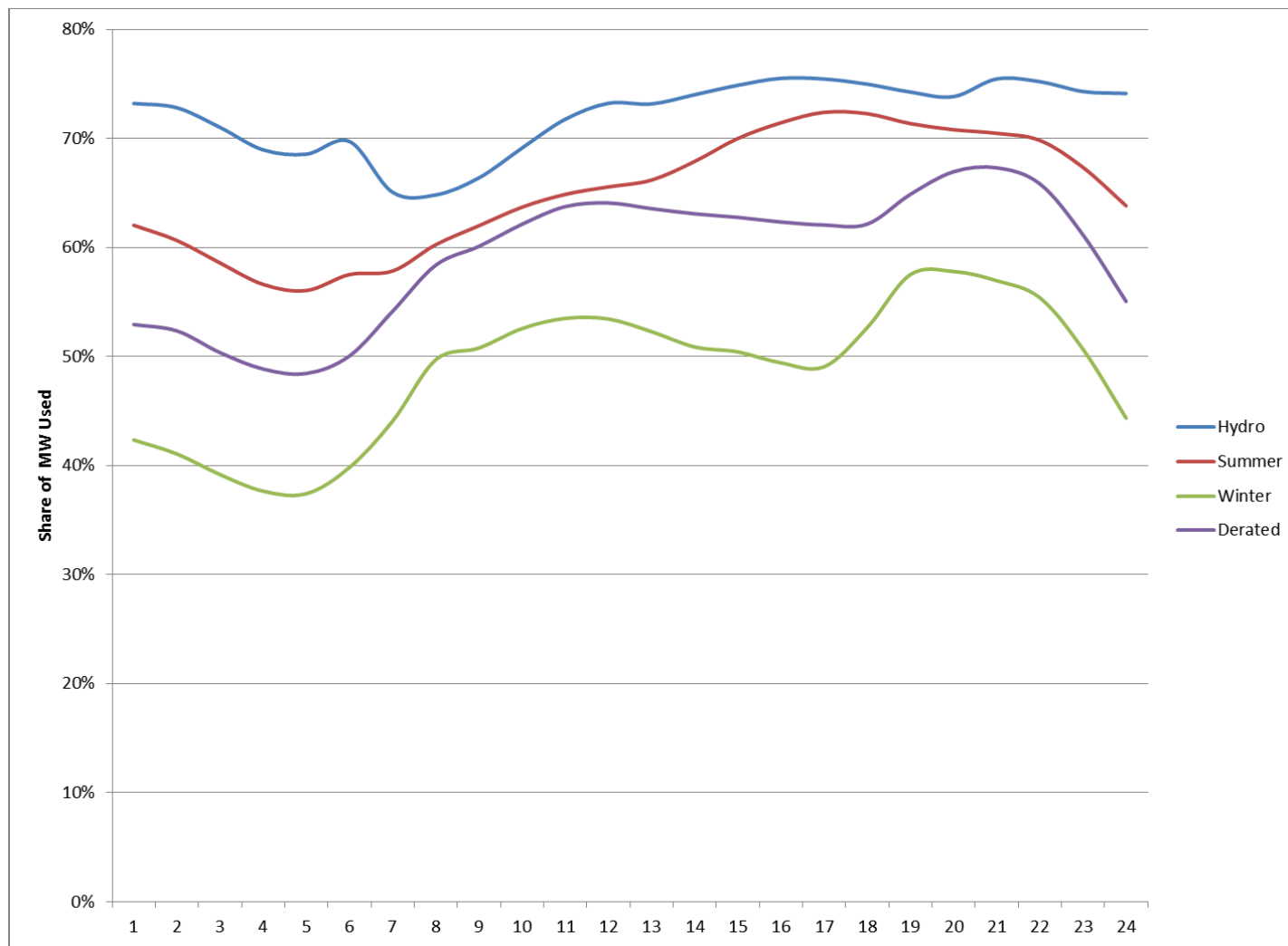
Average Flows – Seasonal Comparison

AC N-S: 24 Hour Profile



Share of Capacity Used – Seasonal Comparison

AC N-S: 24 Hour Profile



$$\text{Share of Capacity Used} = \frac{(\text{AC N-S SOL} - \text{AC Flows})}{\text{AC N-S SOL}}$$

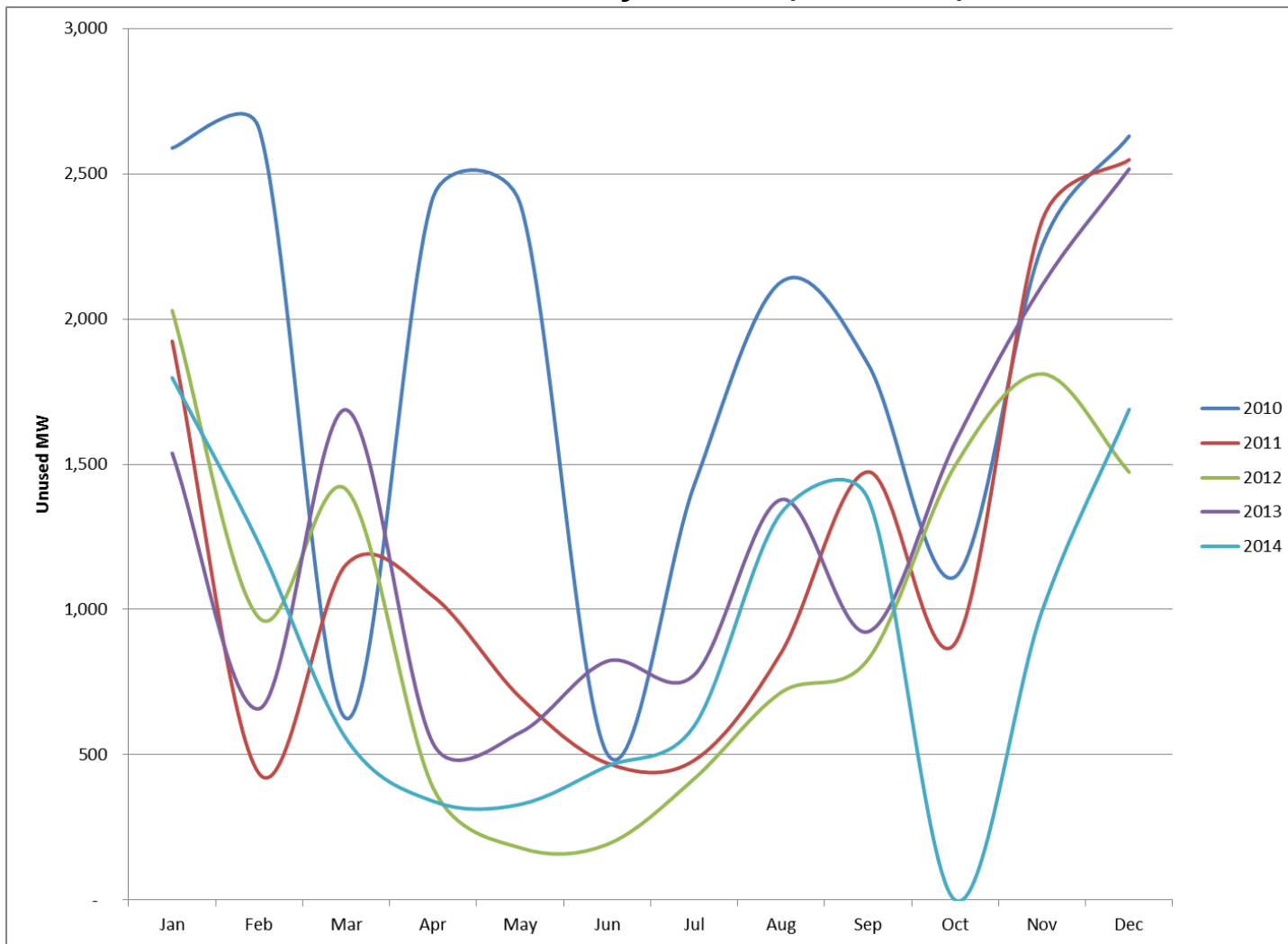


DC Data



Average Unused N-S Capacity – By Calendar Year

DC N-S: Monthly Profile (2010-2014)

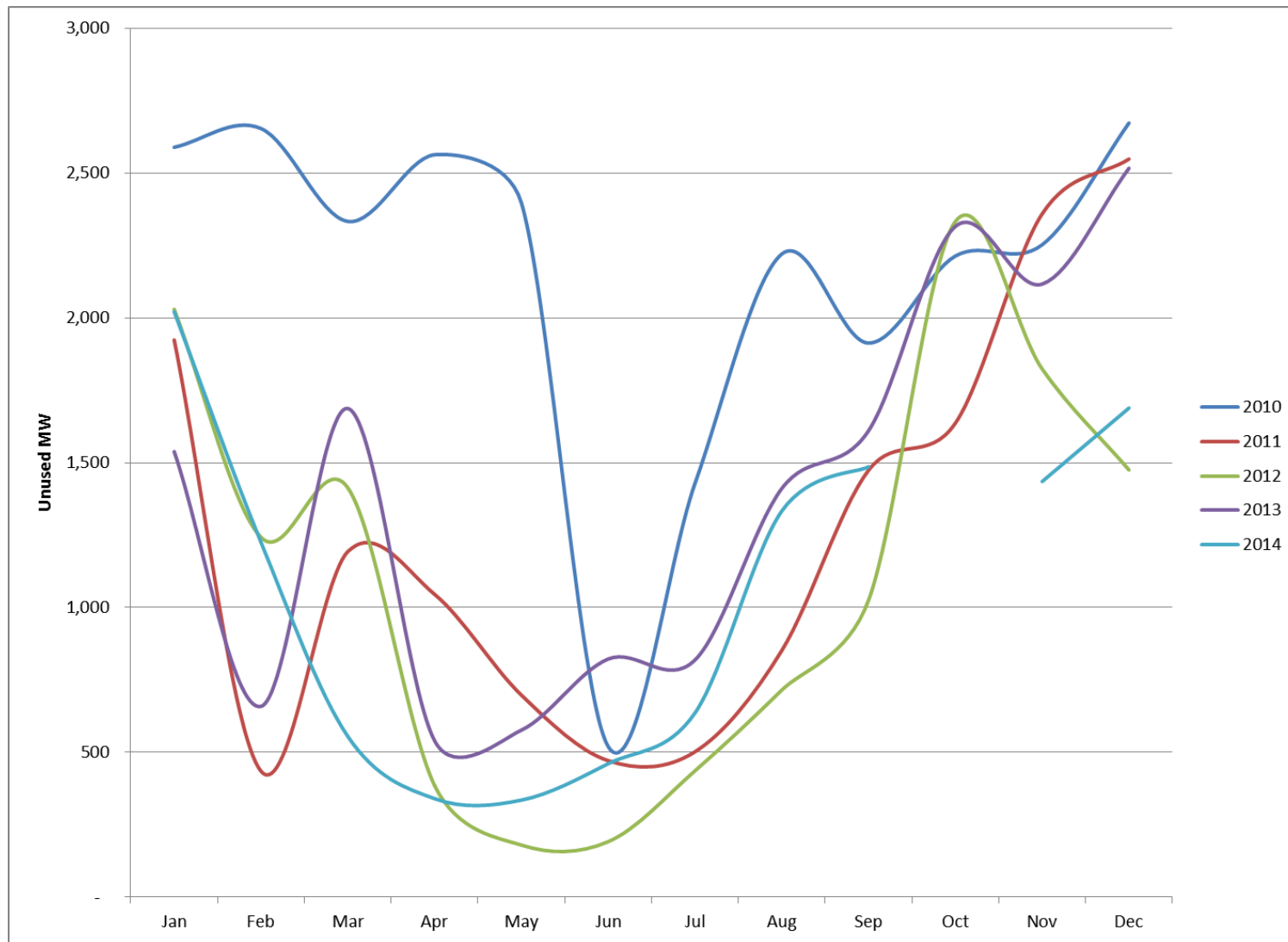


Unused capacity = DC N-S SOL – DC Flows



Average Unused N-S Capacity – By Calendar Year

DC N-S: Monthly Profile (2010-2014 excluding hours with de-rate to 0)

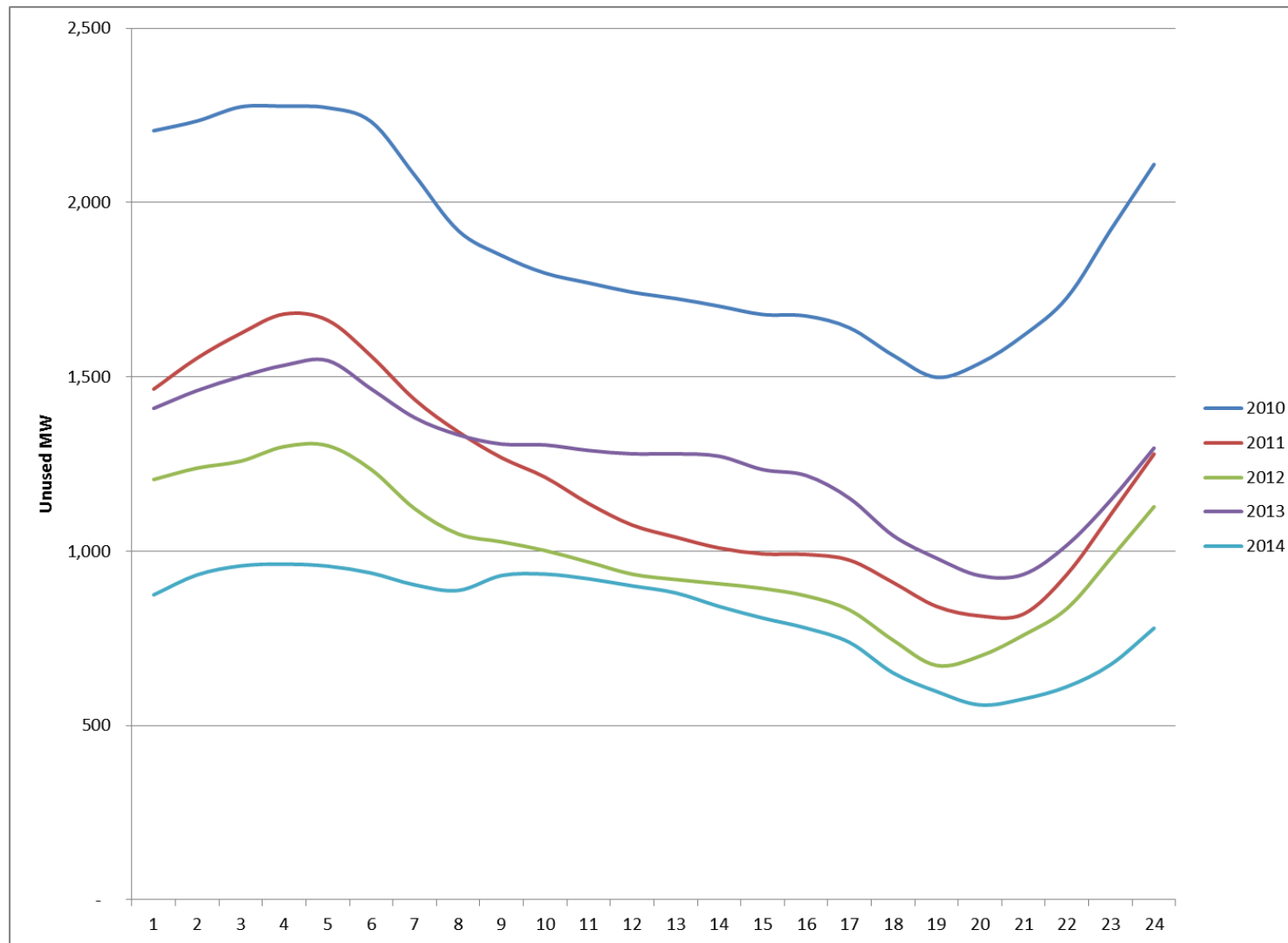


Unused capacity = DC N-S SOL – DC Flows



Average Unused N-S Capacity – By Calendar Year

DC N-S: 24 Hour Profile (2010-2014)

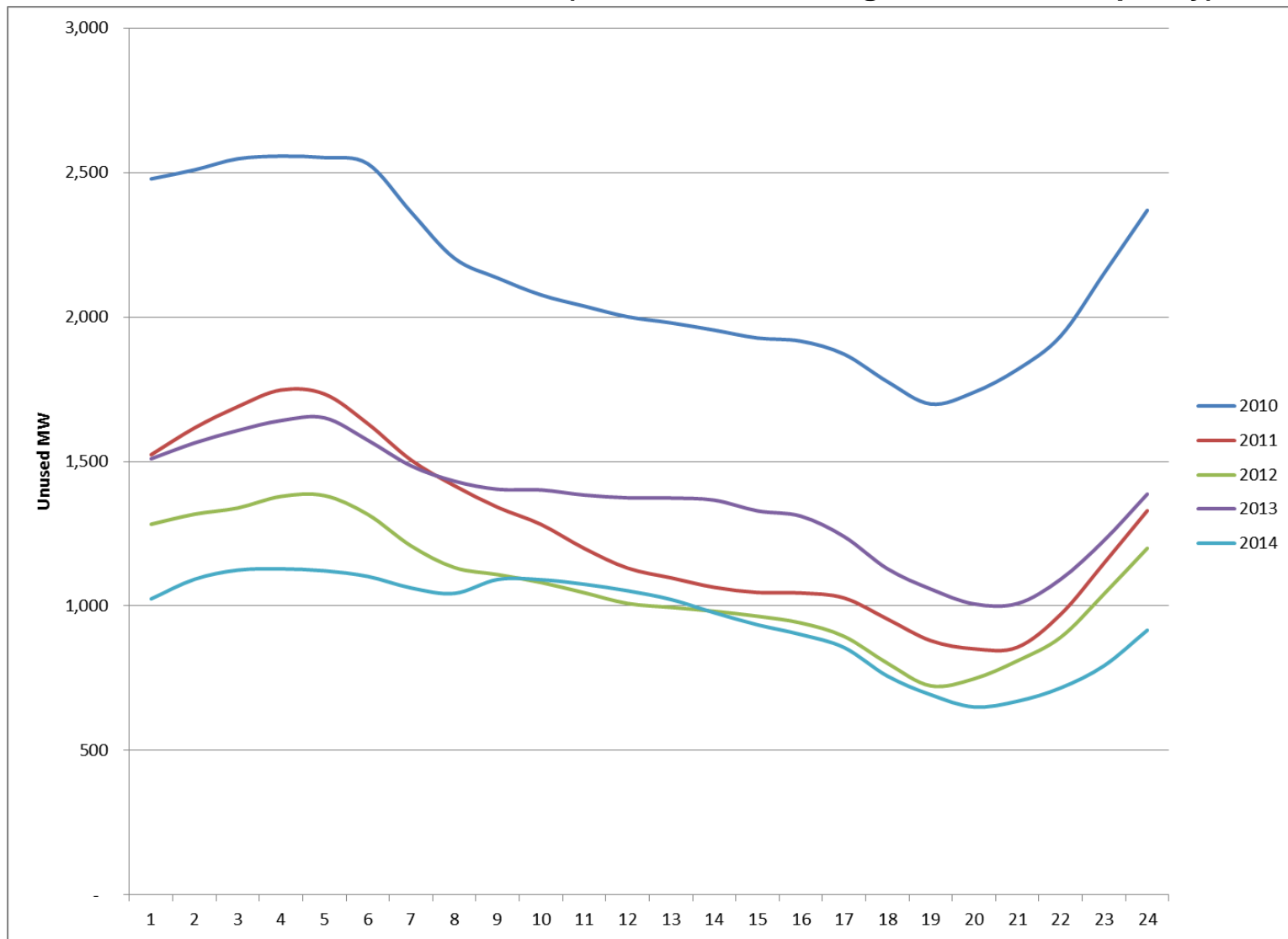


Unused capacity = DC N-S SOL – DC Flows



Average Unused N-S Capacity – By Calendar Year

DC N-S: 24 Hour Profile (2010-2014 excluding hours with 0 capacity)

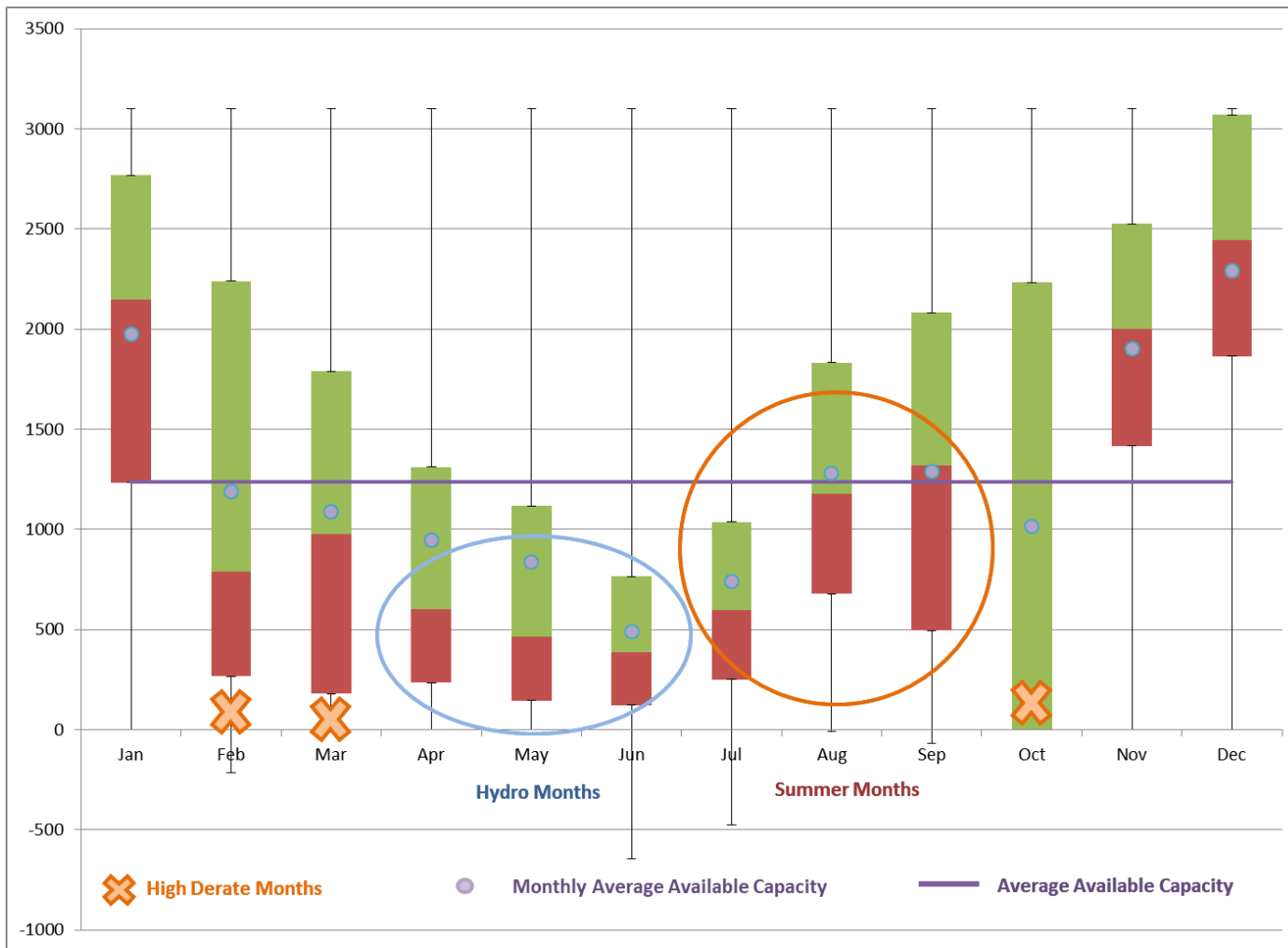


Unused capacity = DC N-S SOL – DC Flows

Pre-Decisional. For Discussion Purposes Only.



Seasonality of Unused Capacity AC N-S (2010-2014)



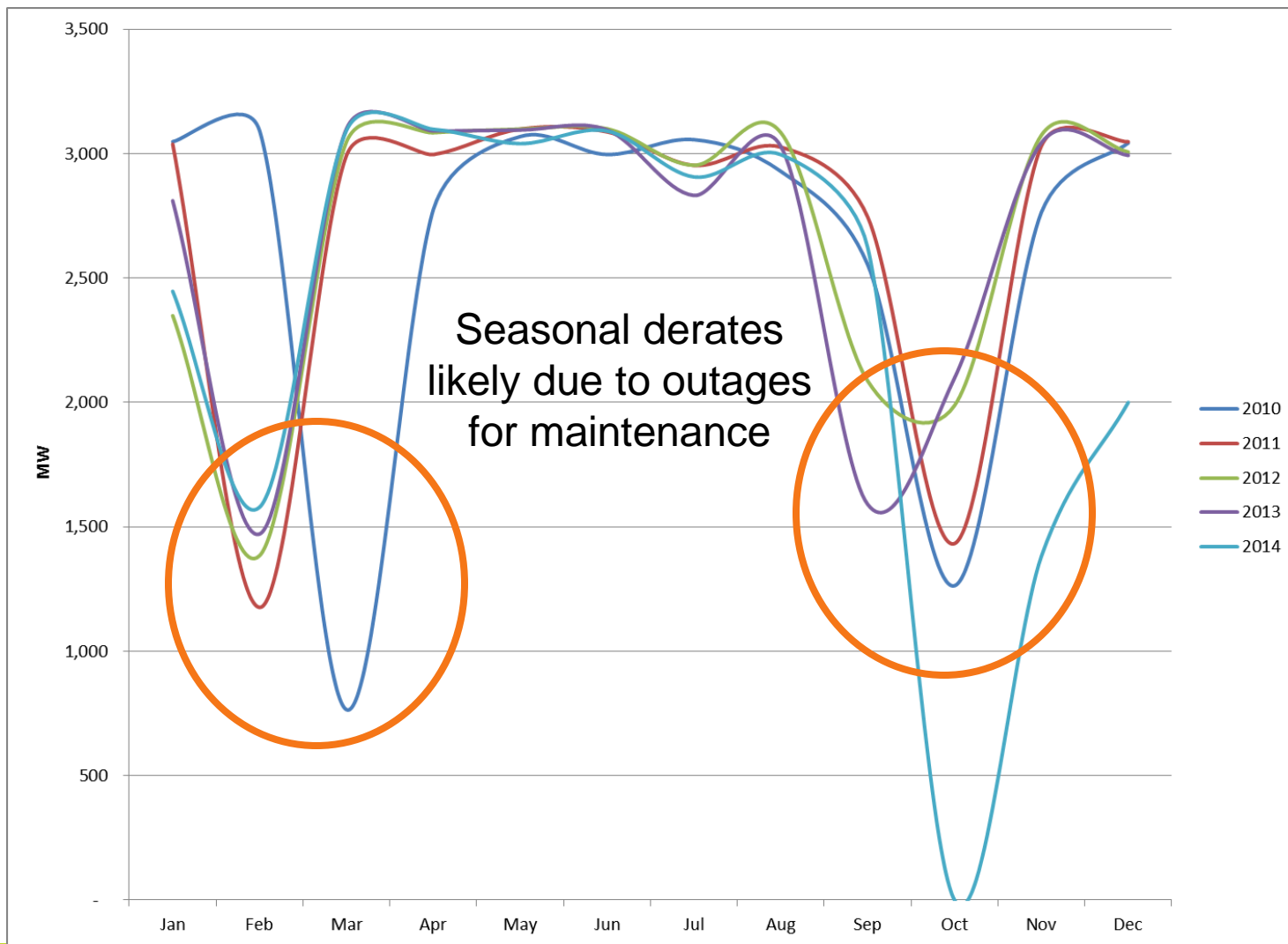
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Unused capacity = DC N-S SOL – DC Flows

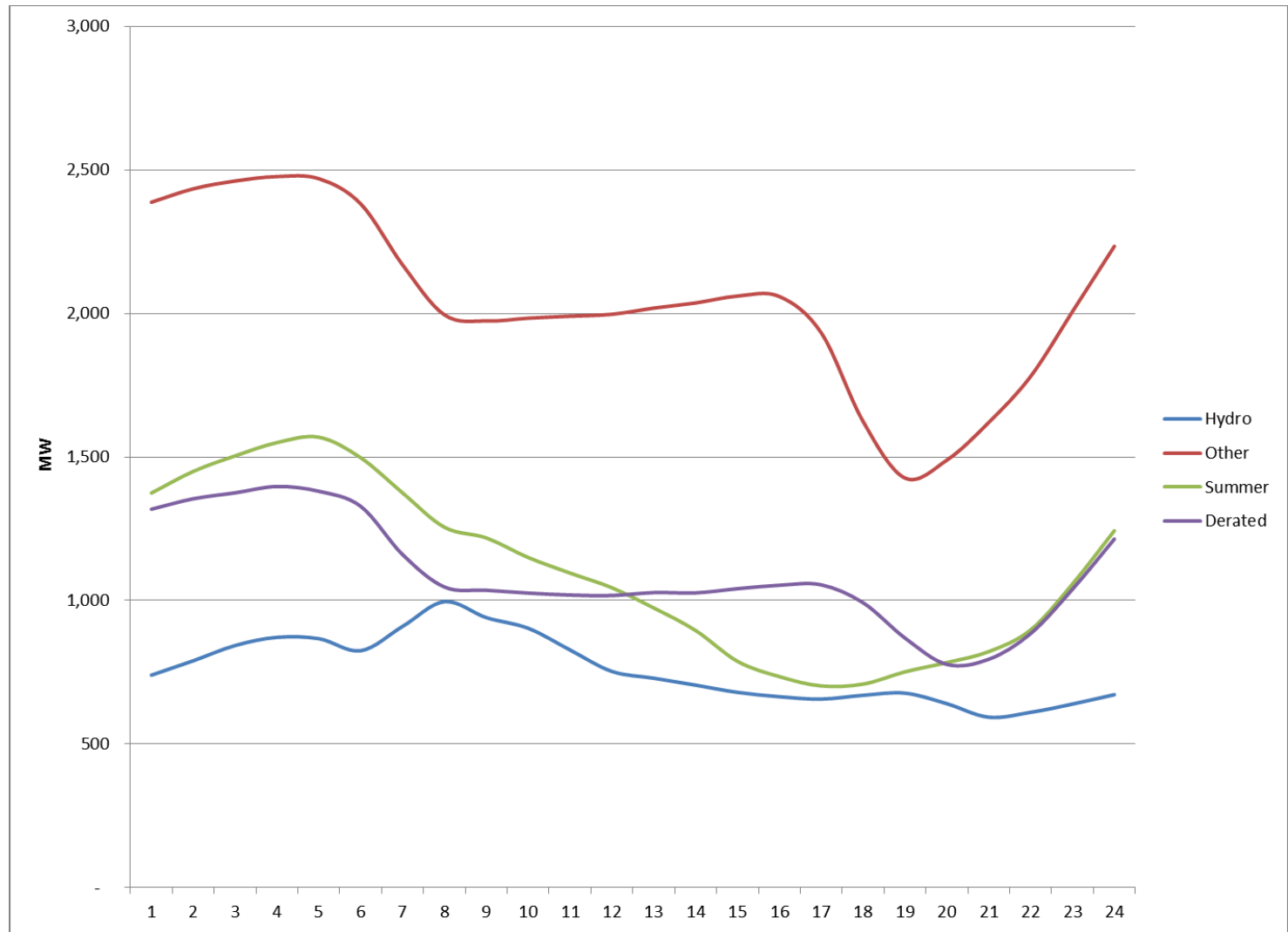


Monthly SOL Profile – By Calendar Year

DC N-S (2010 - 2014)



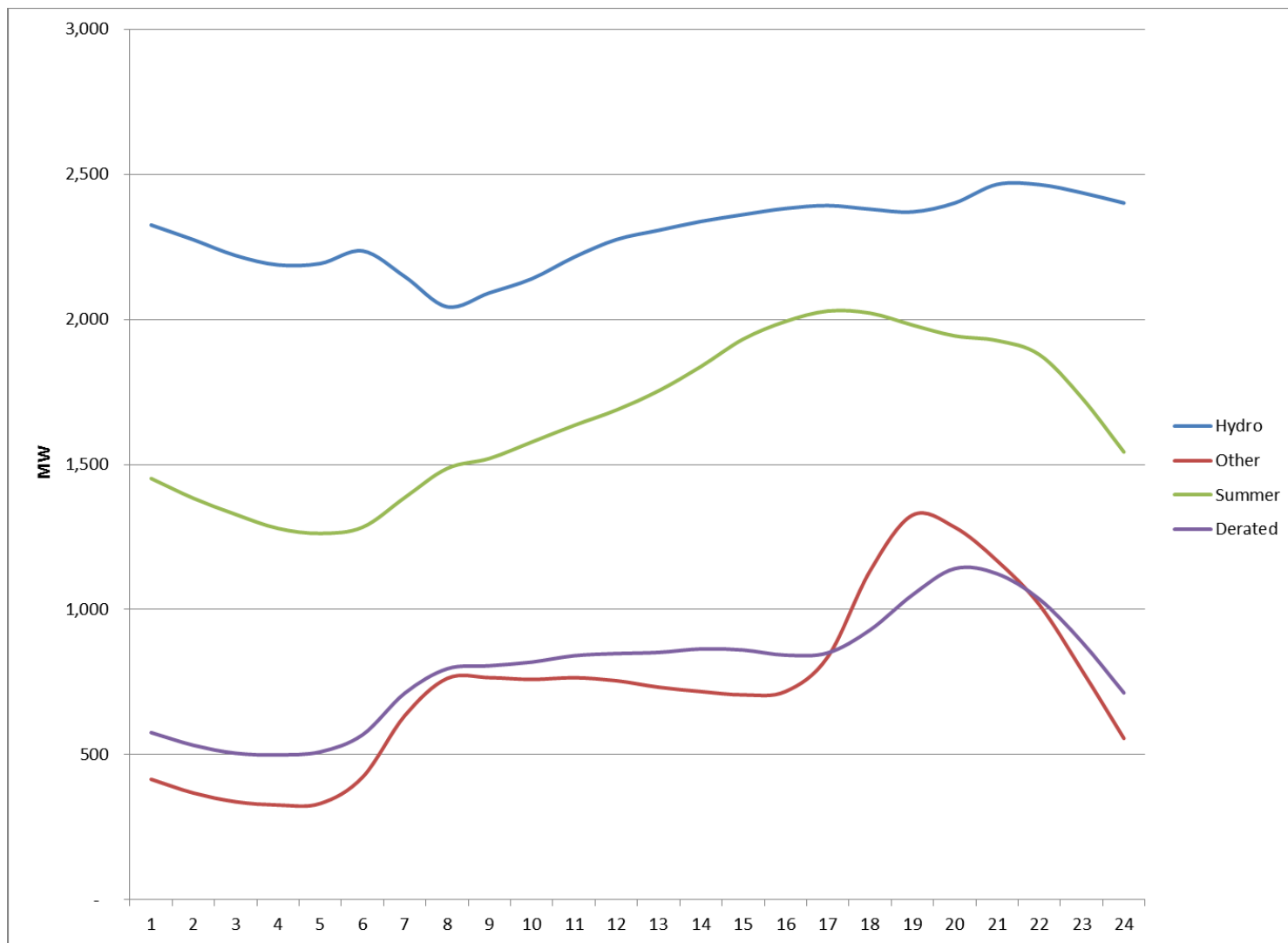
24-Hour Availability Profile – Seasonal Comparison DC N-S



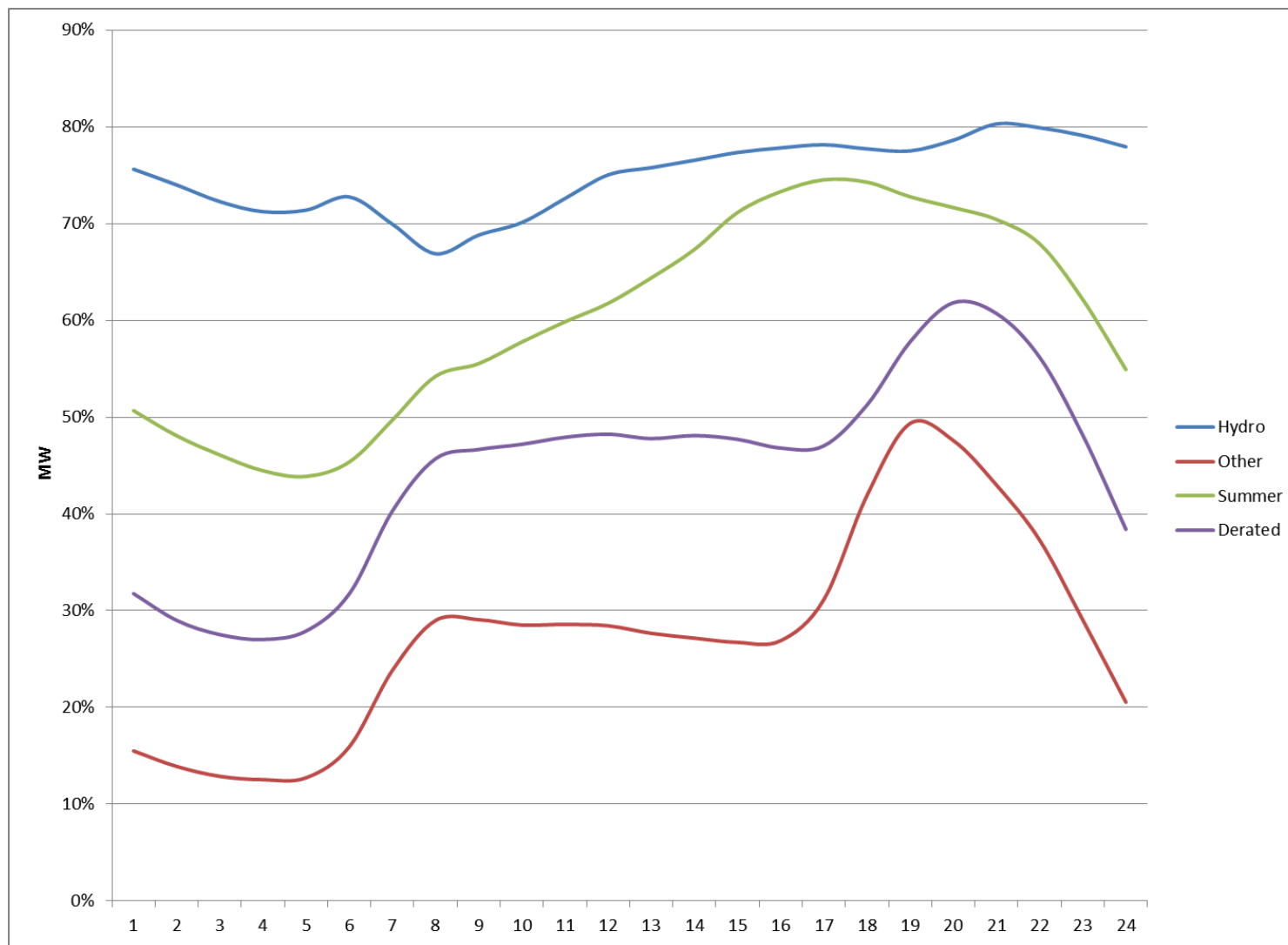
Unused capacity = DC N-S SOL – DC Flows



Average Flows – Seasonal Comparison DC N-S: 24 Hour Profile



Share of Capacity Used – Seasonal Comparison AC N-S: 24 Hour Profile



$$\text{Share of Capacity Used} = \frac{(\text{AC N-S SOL} - \text{AC Flows})}{\text{AC N-S SOL}}$$

