



Generation and Other Assets Committee Meeting

2:00 PM, September 11, 2019
5195 Waterbury-Stowe Road, Waterbury Center, Vermont

CALL IN NUMBER: 1-773-231-9226
MEETING ID: 802 244 7678#

Directors

Reg Beliveau, Swanton	Mike Sullivan, Hardwick	Craig Myotte, Morrisville
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Agenda

Allotted number of minutes set forth in bold type after each item

1. Call to Order **(1)**
2. Consideration of changes/modifications to agenda **(2)**
3. Public comment **(2)**
4. Review of Draft Committee Meeting Minutes July 10, 2019 **(5)**
5. Project #10 **(30)**
 - a. P10 Annual True-up (Jul18-Jun19) **(5)**
 - b. Capital Plan Update
 - c. Market Revenues Update
 - d. General Performance Update
6. Load Reducing Resources **(5)**
 - a. Valuation Report Summary
7. McNeil Annual Capital True Up **(10)**
8. Project Updates **(5)**
 - a. VPPSA Solar Projects
 - b. Standard Offer Projects
9. Phase I Transmission Lease Update
10. SHEI Update
11. Other Business

CC:

Vacant, Barton	Tin Barton Caplin, Barton	Jonathan Elwell, Enosburg
Gary Denton, Enosburg	Carol Robertson, Hyde Park	Frederika French, Hyde Park
Pam Moore, Jacksonville	Mac Butova, Jacksonville	Meredith Birkett, Johnson
Phil Wilson, Johnson	Vacant, Ludlow	Bill Humphrey, Lyndonville
Clay Bailey, Lyndonville	Penny Jones, Morrisville	Stephen Fitzhugh, Northfield
Jeff Schulz, Northfield	John Morley III, Orleans	Marilyn Prue, Orleans
Lynn Paradis, Swanton		

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Vermont **Public Power** Supply Authority

GENERATION AND OTHER ASSETS BOARD COMMITTEE

MINUTES

July 10, 2019

Committee Directors present (X indicates present, P by phone):

X	Craig Myotte, Morrisville	P	Mike Sullivan, Hardwick
		P	Reginald Beliveau, Swanton

Other Directors present:

John Morley, Orleans	
Bill Humphrey, Lyndonville	

Alternates present:

Others present:

Ken Nolan, VPPSA	James Gibbons, BED	Shawn Enterline, VPPSA
Heather D'Arcy, VPPSA	Julia Leopold, VPPSA	

(numbers below correspond with agenda item numbers)

1. Call to Order

The meeting was called to order by Director Morley (standing in as Chair for the meeting) at 2:03 PM.

2. Consideration of changes/modifications to agenda

There were no changes to the agenda.

3. Public comment

No members of the public were present.

4. Review of 05/08/19 Meeting Minutes Draft

Motion was made by Director Myotte, second by Director Sullivan, to approve the minutes of May 8, 2019. Motion was approved unanimously.

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5. Project 10

P10 Capital Plan Updates

Mr. Nolan reported that the bathroom project at P10 was complete, that quotes for the backup generator were expected this week, and that quotes had been received to upgrade the computer components of the control system. Staff was considering a proposal from Ethos Energy (the control system designer) to only upgrade the computer hardware and associated HDMI software as the first step to a full controls upgrade. This approach would allow removal of end of life hardware without requiring a full control system upgrade with associated sensor replacement and reprogramming. Mr. Nolan is meeting on site with Mr. Gagne and Mr. St. Amour to review this option.

P10 Market Revenues update

Mr. Enterline reviewed a slide showing the project's budget and actual market revenues to date. It was noted that the difference between the Projected and Actual revenue for the Project for CY 2019 to date is due to the revenues from providing Black Start services dropping sooner than expected (they were projected to drop materially in June).

General Update

Mr. Nolan reported that despite a recent bad start, the Project is performing well. Mr. Gibbons noted that VPPSA and BED had been able to trade obligations for ten and thirty minute reserves such that this is not having a material revenue impact on VPPSA, and that accordingly there is no reason, at this time, to attempt to restore the rating which would incur fuel costs. There followed some discussion on the implications of a bad start and the cause of this bad start and it was noted that an occasional bad start is not unusual and the possibility of one was factored in when the Project was bid into the Forward Reserve Market.

6. Load Reducing Resources

Mr. Gibbons presented a series of slide summarizing the reduction in capacity and transmission costs due to the operation of behind the meter assets (in particular the members own hydro plants). The capacity savings beginning June of each year are based on the production of these resources at the time of the ISO-NE summer peak hour from the prior summer. As the production in summer 2018 was low, the capacity value of these resources will fall materially

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in June 2019 (which will be exacerbated by a concurrent fall in the capacity market prices. Director Myotte asked if the fall in capacity value was reflected in the 2019 budgets and Mr. Enterline responded that it was included. The transmission savings are based on production of these resources at the time of the VELCO peak for each month and had been as expected.

7. Project Updates

a. VPPSA Solar RFP.

Mr. Nolan reported that progress continues, in partnership with Encore Renewable, on a number of solar projects resulting from the Solar RFP.

b. Standard Offer Projects.

Mr. Nolan reported that two VPPSA sponsored Projects were accepted in 2019, but that individual appeals of all the awards had been made by Allco Renewable Energy out of NY (they are a developer who has developed several Standard Offer project but commonly opposes other awards). In VPPSA's case the claim was that VPPSA violated the Sherman Act and that any bid by VPPSA was de facto collusion. Mr. Nolan expressed that Allco's claims were unfounded and that VPPSA had made a filing refuting the assertions. All parties are now waiting for the PUC to rule.

8. Results of Five-Year Purchase

.Mr.Gibbons provided a graph summarizing the changes in market prices leading up to and following the purchase and noted that even though the market prices had fallen some more following the purchase, the purchase seems to have been timed well. All product prices were below both the price the systems had authorized, and all save the winter on peak product were below the expected price. Mr. Nolan added that this was in fact due to splitting Product #2 (winter product) into on and off-peak components to improve the fit to the needs of individual members and that in aggregate Product #2 declined in price as well. Depending on a member's share of the winter on peak products the effect on individual members could be different. Mr. Gibbons noted that individual summaries for each system were being reviewed and would provide each system with the effect on budgets of their systems entitlements.

9. Potential Improvements to Purchase Approval Process

There was a brief discussion on potential improvements to the purchasing process based on experiences from this iteration. There was general satisfaction with the communication provided and its content with Director

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Myotte noting that it actually had more information than he required. Some Directors present could approve the purchase on their own authority, while some needed (or wanted) to present the recommendation to their governing bodies first. To accommodate these members, whose meetings may be monthly, VPPSA will endeavor to provide 30 days' notice whenever possible or otherwise try to accommodate these members though it was noted that sometimes market conditions can change rapidly.

10. Renewable Energy Standard Compliance Position - 2018

Mr. Gibbons showed a series of slides summarizing each system's compliance with Tiers 1 and 2 of the RES for 2018. All systems ended the 2018 period with RECs that will be banked for use in 2019 (and potentially beyond) for both Tiers 1 and 2. Mr. Nolan noted that this could reduce future budgets for the RES project. Mr. Gibbons added the note that the VPPSA members will first have Tier 3 obligations in 2019 and that a portion of the banked Tier 2 RECs would almost certainly be used for meeting Tier 3 obligations. Mr. Nolan added that a large share of the banked Tier 2 RECs were attributable to Lyndonville's hydro asset. Some discussion about potential additional REC market qualifications followed.

11. Other Business

Mr. Gibbons and Mr. Nolan reported on a potential lease of up to five years, of the entitlements to the Phase 1 transmission line held by some members (the members who participated in this Project in the mid 80's hold rights, but actual ownership resides with a VELCO affiliate). Under the arrangement, the members holding rights to his asset would need to assign those rights to VPPSA. VPPSA would in turn transfer the aggregated rights to the leaser in order to avoid rounding effects otherwise occurring due to the transfer system rules. Members would continue to receive the capacity credits they get today and would acquire a significant new revenue stream. Mr. Nolan noted that the selection of a five-year term was based on the potential leaser's desire to have renewal rights on the Hydro Quebec TransEnergie system which require contracts of five years duration or longer. There was broad support for the proposal.

The meeting was adjourned at 3:25 pm.

Respectfully submitted,

James Gibbons

James Gibbons
Acting Committee Secretary

Memorandum

To: Board of Directors (Generation & Other Assets Committee)
From: Crystal Currier
Date: September 11, 2019
Subject: **Agenda Item #5a** – P10 Resource True-Up (PSA Annual)

As you are aware, the costs related to Project #10 are billed based on the annual P10 budget. Each fiscal year (ending June 30th) the actual costs are trued-up to the budgeted revenues invoiced and received. The true-up for the period covering July 1, 2018 – June 30, 2019 is attached. The true-up result, less amounts retained, is \$236,047.75. VPPSA staff recommends the true-up be transferred to the P10 capital reserve fund.

Swanton Peaker Project

June 30, 2019 True-Up

Cash on Hand at 06/30/18	\$ 261,224.39
Cash Retained:	
Outstanding A/P	\$ 25,845.86
Prepayments	\$ (557.76)
CWIP	\$ (41,236.04)
Property Taxes	\$ 10,862.30
Property Insurance	\$ 18,600.34
Pollution Insurance Renewal	\$ 12,040.38
Participant Revenues Pending	\$ (378.44)
Total Retained	\$ 25,176.64
Net Available to Return	\$ 236,047.75

True-Up by Participant (if distributed)

Barton	2.1600%	\$ 5,098.63
Enosburg Falls	4.7000%	\$ 11,094.24
Hardwick	9.7000%	\$ 22,896.63
Jacksonville	2.4000%	\$ 5,665.15
Johnson	7.2000%	\$ 16,995.44
Ludlow	10.0000%	\$ 23,604.78
Lyndonville	19.6000%	\$ 46,265.36
Morrisville	9.0000%	\$ 21,244.30
Northfield	12.0000%	\$ 28,325.73
Orleans	7.1000%	\$ 16,759.39
Swanton	7.3000%	\$ 17,231.49
VEC	8.8400%	\$ 20,866.62
Monthly Credit	100.0000%	\$ 236,047.75

Memorandum

To: VPPSA Board of Directors (Generation & Other Assets Committee)
From: Crystal Currier, Controller
Date: September 11, 2019
Subject: **Agenda Item 7** - McNeil Resource True-Up (Capital Reserve)

A charge for capital improvements is typically included in the monthly McNeil invoice billed to participants each month. The purpose of the charge is to collect funds for the payment of capital improvements at the McNeil Generating facility. This billing was previously required under the General Bond Resolution as a mechanism to protect the bondholders. The bonds have since matured and while VPPSA is not "required" to collect funds for capital improvements under the Resolution, VPPSA has continued this billing methodology (except for CY 2019) to alleviate large swings in the monthly billing to participants since the cost of capital improvements can be significant.

The capital reserve fund is trued-up each year on June 30th. The summary of receipts and capital expenditures for the year ending June 30, 2019 are attached. This calculation indicates an excess fund balance of \$871,034.20. The significant balance is primarily due to the 2017-2018 decision to retain true-up funds for future capital improvements based on information from BED that significant expenditures (turbine overhaul) would occur during the annual shut-down in May of 2018 and then in May of 2019.

The true-up as of June 30th does not include all the invoices related to the turbine overhaul. In addition, another large capital project has been identified that expects to cost approximately \$3M (VPPSA's share at approximately \$600K) that is expected to occur in CY 2020. Since the McNeil budget does not include any revenues related to capital improvements for the entire 2019 CY, VPPSA staff recommends that VPPSA retain the excess balance for future capital expenditures.

VERMONT PUBLIC POWER SUPPLY AUTHORITY

Capital Reserve Summary

FOR PERIOD ENDING JUNE 30, 2019

Sources:

Fund Balance June 30,2018	\$ 927,038.37
Deposits Jul18-Jun19	\$ 459,492.00

Funds Available	<u>\$ 1,386,530.37</u>
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Less:

Minimum Reserve	\$ (100,000.00)
Prior Year Trueup-Capital Cost	\$ (234,040.34)
Prior Year Trueup - Billed (Returned) to Participants	\$ -
Subtotal - Funds Available for Project Costs	<u>\$ 1,052,490.03</u>

Less:

Current Yr Trueup - Capital Cost	\$ 181,455.83
	\$ -

Available for Refund to Participants or Reserve	<u>\$ 871,034.20</u>
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Refund (Charge) Allocation:

ENOSBURG FALLS	6.316%	\$ 55,014.52
HARDWICK	7.758%	\$ 67,574.83
LUDLOW	10.526%	\$ 91,685.06
LYNDONVILLE	15.789%	\$ 137,527.59
MORRISVILLE	13.916%	\$ 121,213.12
NORTHFIELD	10.432%	\$ 90,866.29
STOWE	15.789%	\$ 137,527.59
SWANTON	19.474%	\$ 169,625.20
	100.000%	\$ 871,034.20

Capital Additions-July 1, 2018 - June 30, 2019 **\$ 181,455.83***Details-See Attached*

McNeil Capital Summary
July 1, 2018- June 30, 2019

FERC Plant Account	Description	Work Order	Project Number	July 1, 2018 - Dec. 31, 2018	Jan. 1, 2019 - June 30, 2019	Total
311	Energy Efficiency Improvements	WF0029220	C9B111	\$ 1,571.80		\$ 1,571.80
311	T-Process Building Exhasut Fan Repl	WF0030703	C9B111	\$ 12,067.88	\$ 43,083.55	\$ 55,151.43
311	Farmhouse Repair-NT-Paint Exterior Trim	WF0030649	C9B111	\$ 5,840.00		\$ 5,840.00
312	Acid Tank Replacement	WF0030627	C9B121	\$ 31,515.83	\$ 14,960.00	\$ 46,475.83
312	Trestle Air Comp Replacement	WF0030705	C9B121	\$ 4,627.66	\$ 36,999.95	\$ 41,627.61
312	Stack Repair	WF0030687	C90041		\$ 74,430.81	\$ 74,430.81
312	Chemical Pump Replacement/Upgrade	WF0030691	C9B121		\$ 2,014.72	\$ 2,014.72
314	Cooling Water Circulating Pumps & Motors	WF0029176	C93770		\$ 184,968.00	\$ 184,968.00
314	Cooling Water Circulating Pumps & Motors	WF0030643	C90037		\$ 14,840.03	\$ 14,840.03
314	Cooling Tower Basin Repair	WF0030645	C90039		\$ 109,781.54	\$ 109,781.54
314	Circulating Water Isolation Valves	WF0030689	C9B141		\$ 20,042.30	\$ 20,042.30
314	Turbine Extraction Valve Actuators	WF0030677	C90043		\$ 25,696.76	\$ 25,696.76
315	IT Forward Upgrade	WF0030679	C93410	\$ 1,344.66		\$ 1,344.66
315	T-Kracher Floor Cleaning Machine	WF0030709	C9B151	\$ 6,835.15	\$ 2,905.33	\$ 9,740.48
316	Wood Handling Front End Loader	WF0030641	C90036	\$ 351,068.16		\$ 351,068.16
316	Tools-Counterweight Lift Model 2515	WF0030711	C9B161	\$ 4,798.15		\$ 4,798.15
391	Office Furniture-Work Chairs, (5)	WF0029224	C9B911		\$ 1,137.78	\$ 1,137.78
391	Leather Chair	WF0030701	C9B911	\$ 619.94	\$ -	\$ 619.94
391	Zebra Label Printers (2)	WF0030713	C9B911		\$ 3,880.67	\$ 3,880.67
						\$ -
						\$ -
	Sub-total			\$ 420,289.23	\$ 534,741.44	\$ 955,030.67
	Less Adjustments			\$ -	\$ -	\$ -
	Sub-total			\$ 420,289.23	\$ 534,741.44	\$ 955,030.67
	VPPSA 's Share			19%	19%	19%
	Total			\$ 79,854.95	\$ 101,600.87	\$ 181,455.83



Asset Committee Meeting 9/11/2019

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PROJECT 10

Review market revenues YTD.

6

LOAD REDUCING RESOURCES

Review market value YTD.

8

PROJECT UPDATES

VPPSA solar and standard offer projects.

9

PHASE 1 TRANSMISSION LEASE UPDATE

Review status of lease negotiations.

10

SHEI UPDATE

Review status of T&D permitting and construction.

5. P10 Market Revenues July YTD

Sch. 16 (Blackstart)

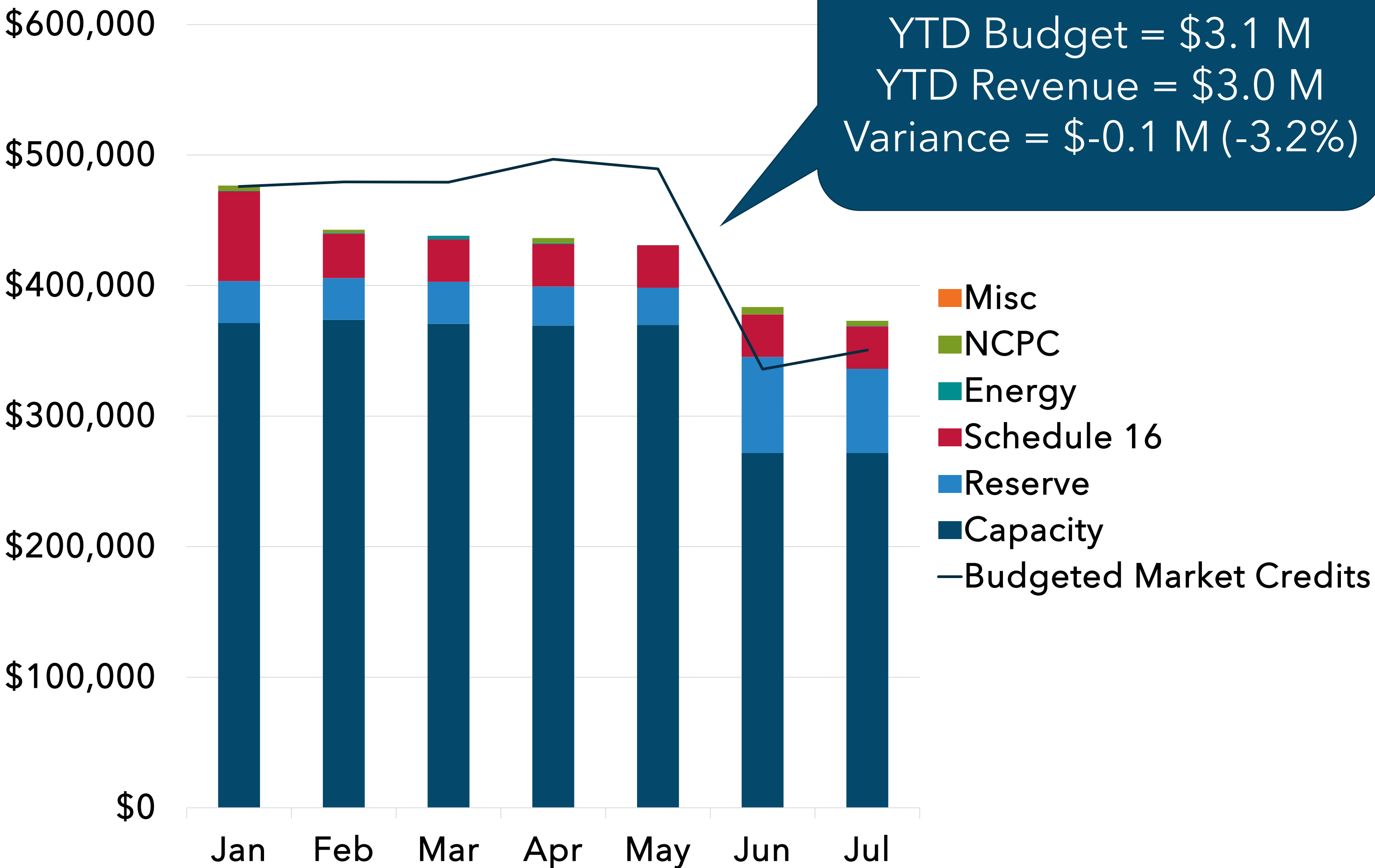
- Revenues declined faster (Feb-19) than expected.

Reserves

- Revenues are higher than expected in Jun & Jly due to higher mkt. prices.

Capacity

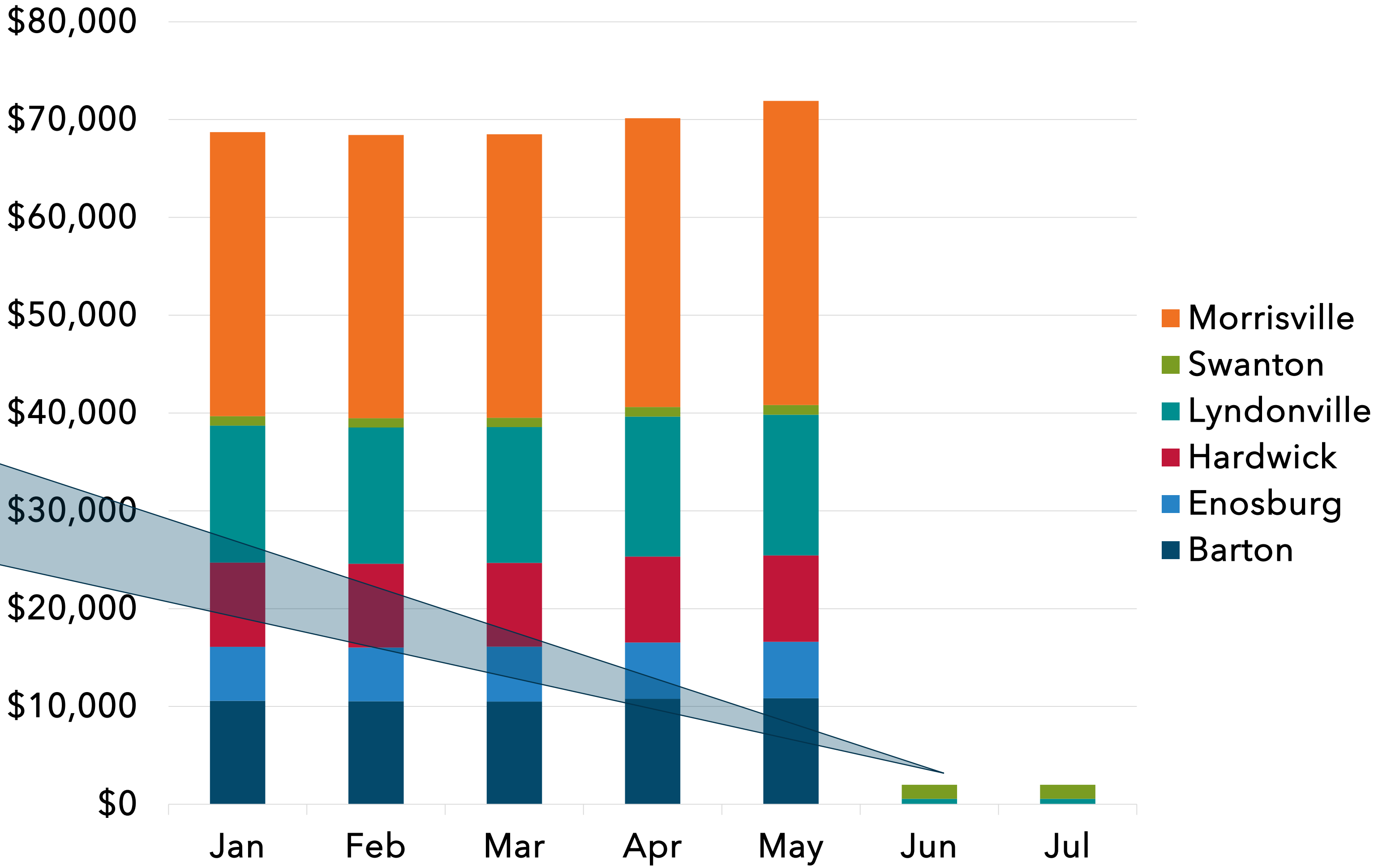
- Revenues dropped as expected in June due to lower mkt. prices.



6. Load Reducing Hydro: Capacity Value

Capacity Value

- July YTD
- Capacity value is negligible this coming year due to low and/or no generation at the ISO coincident peak...



6. Load Reducing Hydro: Capacity Coincident Output

Coincident with ISO Peak

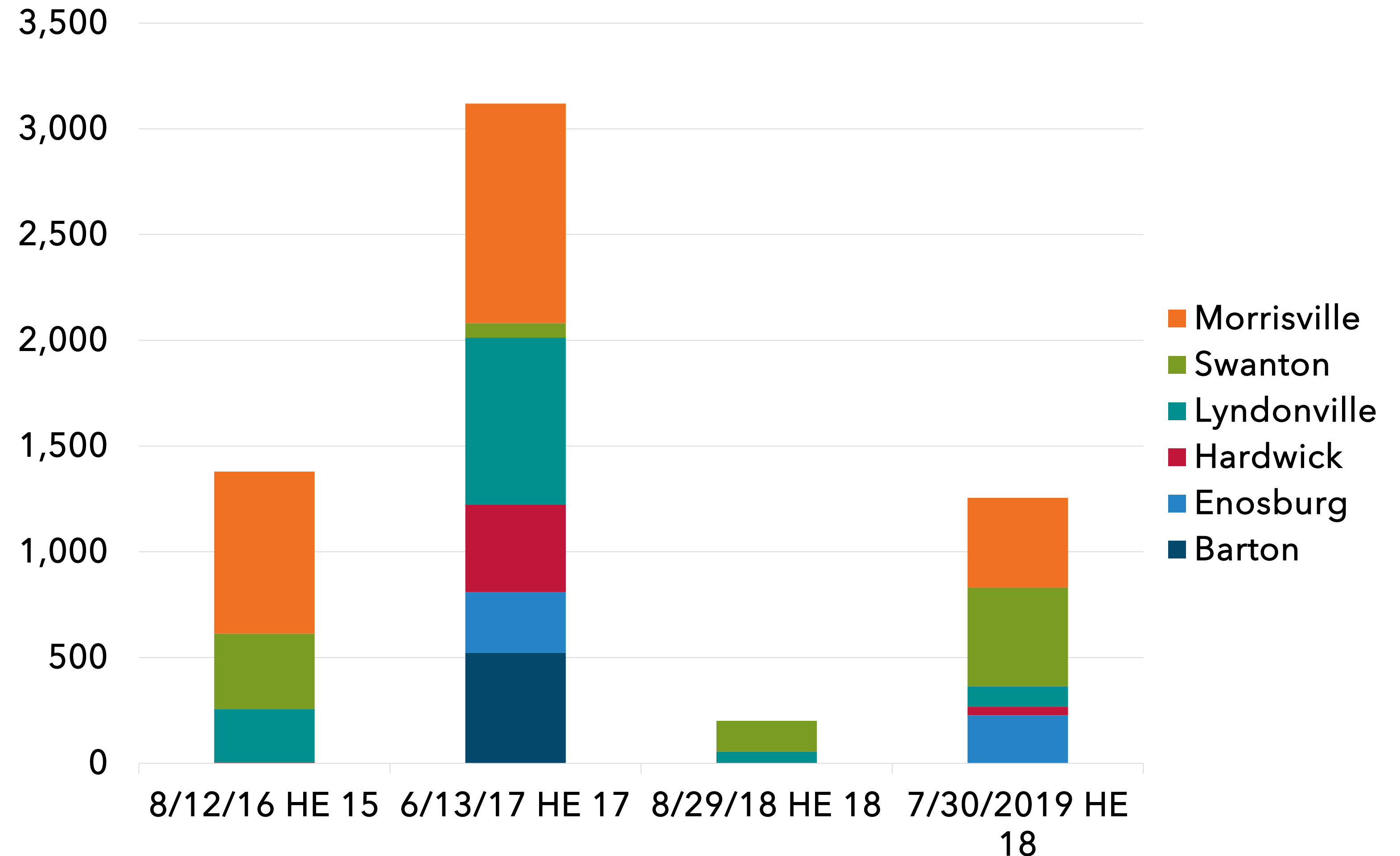
- 2016-2019

Jun 19 - May 20

- Capacity value is near zero.

Jun 20 - May 21

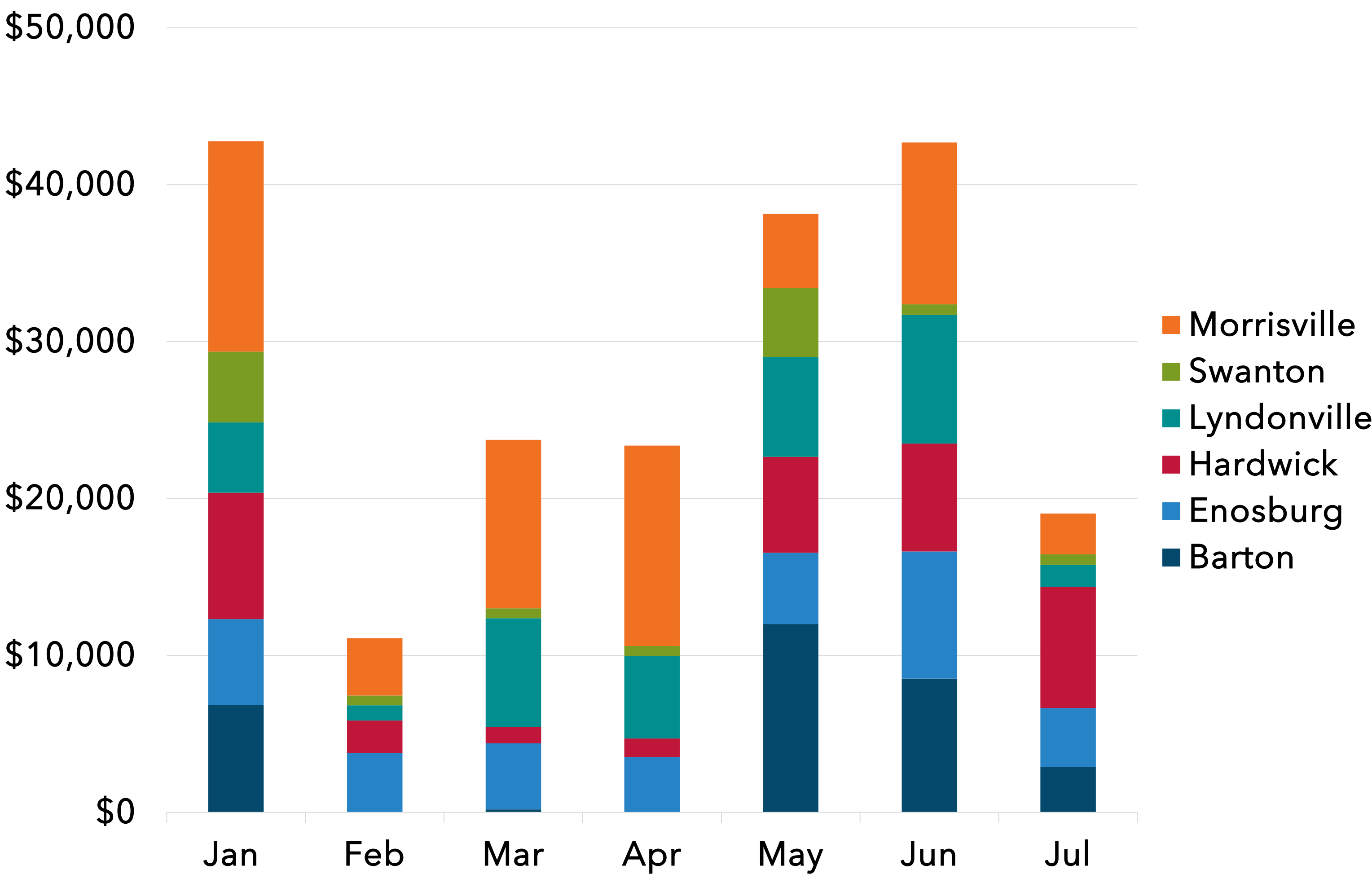
- Capacity value returns to 2016 levels.
- This is still <50% of the 2017 levels.



6. Load Reducing Hydro: RNS Value

RNS Value

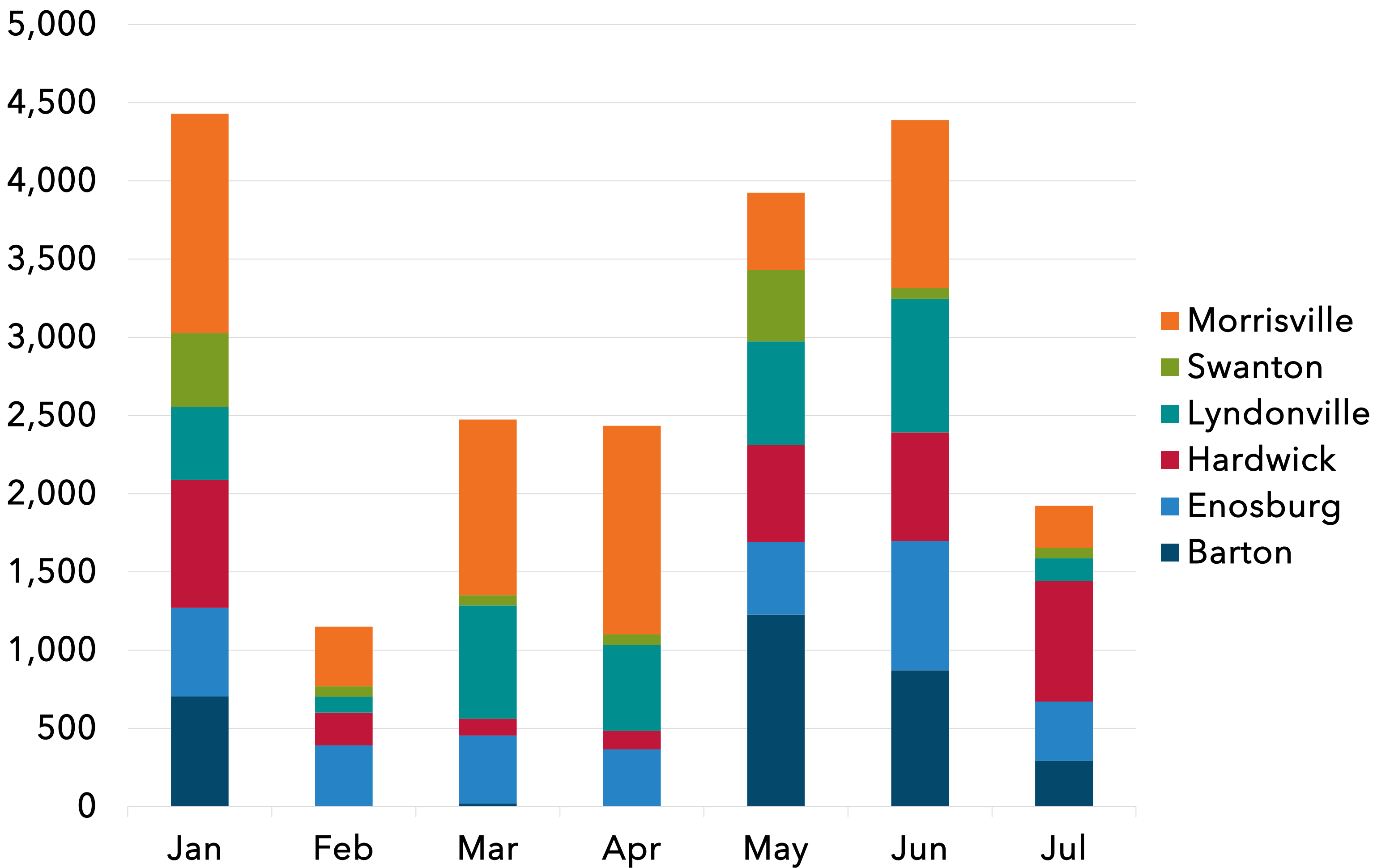
- July YTD



6. Load Reducing Hydro: RNS Coincident Output

Hydro Output

- July YTD
- Coincident with VELCO Peak



8. Project Updates Solar

VPPSA Solar:

- Trombley Hill (Morrisville):
 - This is live and has been since May 30th. We are working with the owner of the system, SolarSense, to figure out some invoicing issues.
- Lawrence Brook (Morrisville):
 - The PSA has been signed and sent to Encore. Ball is in Encore's court to move forward with final engineering and permitting for pre-construction.
- Bone Hill (Northfield):
 - PSA with Bill Ellis for review. This needs to move quickly to achieve safe harbor (construction must begin before 12/31/19 to receive 30% federal tax credit). Encore to provide comments for feasibility study.
- Jacksonville (Jacksonville):
 - Potentially splitting between Jacksonville, Johnson and Orleans. Most important aspect is RECs.
- Billings Road (Hardwick):
 - Encore needs the system stability and economic benefit from utility and VPPSA. They are getting us the template.

Standard Offer Solar:

- Salvage Yard Hess (Morrisville, 2019 Award):
 - The PSA will be reviewed by Bill Ellis following the completion of Bone Hill PSA review. This also needs to move quickly to achieve safe harbor.
- Center Road Davis (Hardwick, 2019 Award):
 - Encore is sending VPPSA the PPA to review.

9. Phase I Transmission Update

Update:

- Individual system economics analysis are complete
- Draft contracts between VPPSA and its members are being finalized
- VEC is reviewing the contract package as the intermediary who will transfer the rights
- The VPPSA-Buyer agreements are essentially complete (99%) and should be ready this week

Next steps:

- Obtain approval from each Phase 1 Entitlement Holder for the contract assigning their rights to VPPSA. VPPSA members/affiliates with Phase 1/2 rights are:

Enosburg
Hardwick
Ludlow
Lyndonville
Morrisville
Northfield
Swanton
WEC

10. SHEI Updates

Update:

- GMP is working on preparing a Section 248 filing to cover the upgrades to the B20/B22 sub-transmission lines. As a portion of this work, GMP has requested the individual member entitlements to the new HQ contract.
- A draft set of principals coving the cost recover associated with the SHEI project has circulated between GMP, VPPSA, WEC, and BED (attached)
- BED has extended its contract with Sheffield for another five years. This contract has provisions that provide economic encouragement for Sheffield to continue with the work needed to activate their Automatic Voltage Regulation (AVR) capability

Next Steps:

- Review any economic analysis prepared by GMP of the benefits of congestion relief
- Monitor the 248 filing process and draft testimony to determine what level of activity might be needed by VPPSA in the 248 process

Next Steps

Suggest Agenda Items for Next Meeting

Suggest Agenda Items for the Next Meeting

Questions?

James Gibbons

Director of Policy & Planning
Burlington Electric Department

Phone: (802) 882-8510



www.vppsa.com

Statement of General Support

for

Sheffield-Highgate Export Interface Mitigation Steps

This document summarizes general agreement by and among the Vermont Distribution Utilities (“VDUs” or “Parties”) relating to the economic impacts associated with transmission constraints in northern Vermont and the development of projects intended to alleviate those adverse economic impacts on VDUs associated with existing levels of generation in the area, and establishes a framework for discussion of the allocation of costs for projects designed to mitigate these transmission constraints. It is important to note that the proposed package of projects is not intended to relieve all of the existing economics impacts of the constrained interface under all conditions, but rather to relieve those impacts where it is economically viable to do so.

This statement is not intended to address potential steps that might be undertaken to expand transmission capacity to allow the deployment of additional generation in the area, or the allocation of costs associated with such steps. Some constraints will likely remain under some conditions (although in a much smaller number of hours), and addition of new generation in the SHEI area, even following the proposed upgrades, will tend to exacerbate the situation again.

The SHEI Constraint

Congestion of the Sheffield-Highgate Export Interface (“SHEI”) is presently causing many VDUs¹ to experience increased net power supply costs. These net cost increases stem from reductions in ISO-NE energy market revenue (based on locational marginal prices “LMP”) received by VDUs for purchased and/or owned generation sources in the SHEI area, and reductions in revenue resulting from reduced output of generating plants in the SHEI area, which include costs associated with lost production tax credits and revenues from the sale of renewable energy certificates (“SHEI Impacts”). The first effect has been generally called “LMP Suppression Impacts” and the second “Curtailement Impacts”. Vermont DU’s with resources in the affected area may experience, either, both, or neither of these impacts depending on the resources specific circumstances.

SHEI Projects

The Parties, along with VELCO, have been working since late 2017 to identify and evaluate a number of potential mitigation measures for the current SHEI Impacts. Through this effort the parties believe the most cost-effective solution steps to resolve the current SHEI Impacts include implementation of Automatic Voltage Regulation (AVR) capability at the Sheldon Springs Hydro plant and the Sheffield Wind plant, along with a Lowell to Morrisville Upgrade Project (“Project” - which includes reconductoring 18 miles of the B20 line from the Johnson to Lowell

¹ Some VDUs that purchase/own little or no generation in the SHEI area (or whose generation is not settled through the ISO-NE energy markets) may not experience meaningful SHEI impacts, and seemingly might not need to participate in a cost sharing agreement.

Statement of General Support for Sheffield-Highgate Export Interface Mitigation Steps

Substations, a rebuild of the GMP Lowell Substation, and reconductoring of about 1.5 miles of the B22 line).

GMP staff conducted the majority of the detailed modeling work (with VELCO's assistance in interpreting results from the Northern Vermont Export Study, or NVES) used to evaluate the various solution alternatives². At periodic working group meetings GMP shared with the other VDUs and VELCO their methodology and conclusions, providing the VDUs the opportunity to ask questions and provide feedback. This process allowed the VDUs (other than GMP) to become familiar with GMP's work and support the conclusions that the projects identified above (including the Project) are the most cost-effective alternatives. The other VDUs have not, however, reviewed all the specifics of GMP's modeling.

Cost Sharing for SHEI Projects

The Parties have not yet determined an appropriate allocation of the costs of the projects (or portions of projects) that are ultimately implemented. The Parties agree to work in good faith toward a mutually acceptable agreement³ ("Cost Sharing Agreement") that establishes an equitable method of sharing among the VDUs costs associated with SHEI Projects that would not otherwise be incurred absent consideration of the SHEI Impacts ("SHEI Project Costs"). We expect that under an equitable sharing method, each VDU's share of SHEI Project Costs will be a function of the approximate extent (if any) to which that VDU will benefit from relief of the existing SHEI constraint, and that those Project costs will be less than the resulting improvement in the net power supply costs of the affected utilities (related to SHEI congestion).

The Parties recognize that the magnitude of actual future benefits from SHEI Projects and the relative share of those benefits among individual VDUs will be subject to uncertainty due to several factors – including volumes and timing of energy generated/purchased in the SHEI area; regional LMP levels; the timing and duration of transmission maintenance projects; and ISO-NE's administration of the SHEI interface. The parties recognize that a Cost Sharing Agreement will need to reasonably address these uncertainties and that the Parties will need to have confidence that their share of the costs is justified by their expected benefits; at this time the Parties remain optimistic that an agreement can be reached.

² The NVES was developed by VELCO and its consultant EIG.

³ By a mutually acceptable Cost Sharing Agreement, we mean one that is acceptable to all parties that would share SHEI Project Costs. The current statement of general support does not obligate any VDU to support a fraction of SHEI Project Costs, nor require the VDUs to commit an unbounded amount of time or resources in pursuit of a mutually acceptable agreement.