

Letter of Intent Request

Presented on February 28th, 2022

To City Council



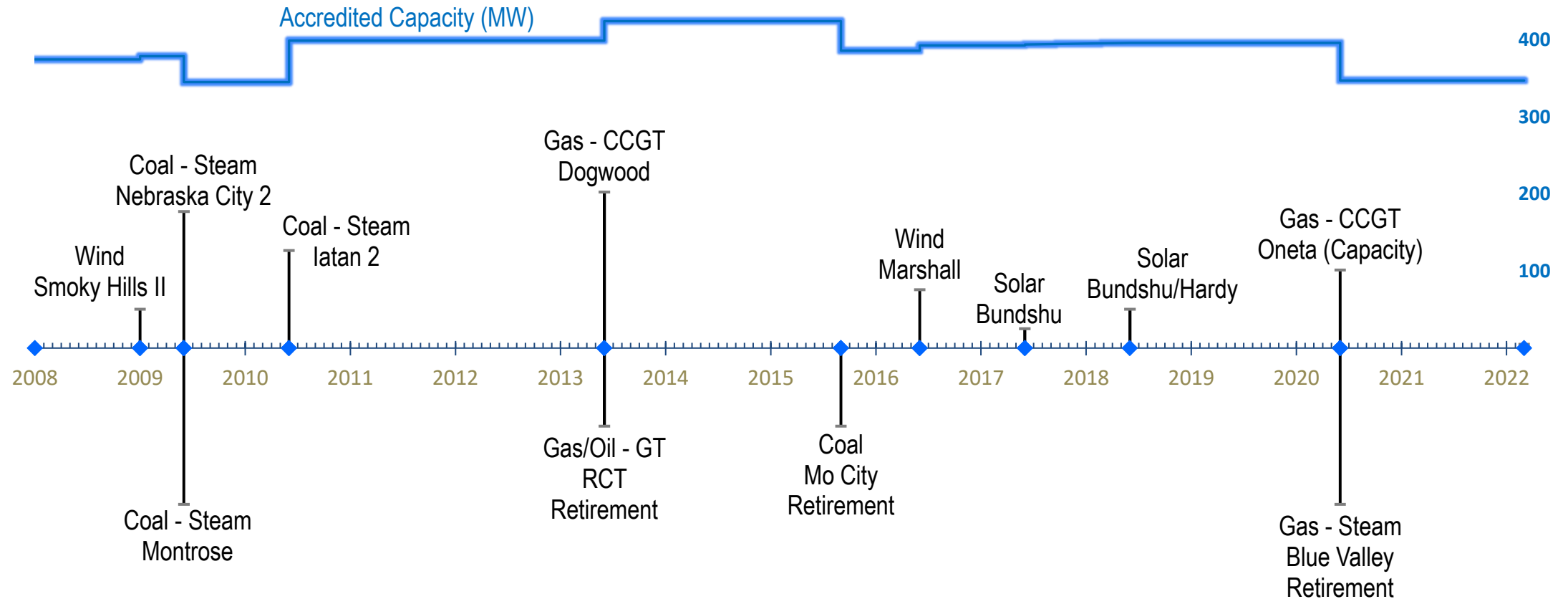
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Letter of Intent (LOI)

- Staff requests City Council action to approve an LOI and proceed in negotiations with the winning bidder (PROENERGY Services, LLC) of the Substation A Generation Project, RFP 21094.
- An LOI will allow Staff and PROENERGY Services, LLC to develop project specific details and reach a “best and final offer” on all deliverables necessary for the project.

Resource Historical Timeline



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Siting Study, August 2021

- Replacement of On-System Generation
 - Retired Blue Valley Steam Plant (93MW)
 - Existing Combustion Turbines (Sub H, I and J)
- Two Fundamental Study Questions
 - What are the feasible replacement generation technologies?
 - Where is the most advantageous location?
- Study Included
 - Capital and O&M cost, required footprint, noise, visual impact, adaptability to green fuels (hydrogen), environmental permitting, and **SPP Replacement Process**

Study Conclusions

- Blue Valley / Substation A - Recommended location for the installation of new generation.
 - Gas already in place, existing large industrial site, over 4 acres of space available, qualified for quick SPP Replacement process to take advantage of FERC-approved 36-month waiver
- Sub I and Sub H - Secondary locations for potential replacements. A transmission study is needed to determine reliability impacts.
- Aeroderivative turbines are the recommended technology. Reciprocating engines are an acceptable alternate technology.

SPP Generation Replacement Process

- SPP New Generation Interconnection Applications
 - 4-6 years to be studied and approved.
 - Share in other utility transmission interconnection costs – **Millions \$\$**
- SPP Replacement Generation Process
 - 12-18 months to be studied and approved.
 - Pay only City transmission interconnection costs
- June 2021 - Submitted SPP Replacement Request - Sub A (Blue Valley)
- June 30, 2021 - FERC Waiver requested to use the SPP Generation Replacement Process
- October 7, 2021 - FERC Waiver Approved (36-month clock started)



Request for Proposals, December 2021

- Complete Engineer Procure Construct (EPC) services
- Project Size (45 – 99 MW) - SPP Interconnection Limit (99MW)
- Supply all performance data necessary to facilitate total life cycle cost/benefit analysis for proposed generation technology
- Included minimum qualifications to bid requirements
- Bid evaluation criteria included project cost, performance, project description, and company qualifications
 - Project cost = 30 Year Net Present Value or total life cycle cost of the unit
 - Ability to combust zero carbon emission fuels (hydrogen)



RFP Results

- Six companies bid a total of 20 different projects
- Technologies offered included RICE, one large frame CT and multiple aeroderivative turbine models
- Intensive and Comprehensive Scoring process
 - Marketplace modeling, 30-year best value analysis
 - 6 members on Evaluation Team including Staff & 3rd Party Engineer
- Unanimous winner ProEnergy Services' LM6000 Aeroderivative
 - Average score 93 / 100 - next highest average score 66
 - One bidder eliminated as they did not meet minimum criteria



RFP Evaluation

Proposal	Manu	Technology	Summer Cap (MW)	Min	Net Heat Rate BTU/KW-hr	Pricing	Price	\$/kW
Company A - Option 5	MAN	18v51/60DF (5X18)	89.7	4.5	7501	IP	\$165,135,042	\$1,841
Company A - Option 3	GE	3xLM2500Xpress	88.6	14.8	9235	IP	\$153,416,937	\$1,732
Company A - Option 4	Mitsubishi	3 X FT8	81	13.5	9816	IP	\$152,072,061	\$1,877
Company D - Option 1	GE	3xLM2500Xpress	90.7	14	9020	IP	\$147,302,512	\$1,624
Company A - Option 1	GE	2xLM6000PF	83.7	18.2	8861	IP	\$145,702,533	\$1,741
Company B - Option 8	Mitsubishi (Refirb)	3xFT8 MOBILEPAC	80	13	10040	IP	\$142,400,000	\$1,780
Company D - Option 2	GE	2xLM6000PF	88.2	19.5	8415	IP	\$138,492,061	\$1,570
Company A - Option 2	GE (Refirb)	2xLM6000PC	75.6	18.9	8715	IP	\$129,305,195	\$1,710
Company B - Option 5	Wartsilla	RECIP (5X18)	83	2	7935	IP	\$128,000,000	\$1,542
Company B - Option 6	Mitsubishi	3xFT8 MOBILEPAC	80	13	10040	IP	\$126,700,000	\$1,584
Company B - Option 3	GE	LM2500Xpress (3X33)	87	17	9403	IP	\$126,500,000	\$1,454
Company D - Option 3	Siemens	2xSGT-800	89.7	22.4		IP	\$126,323,041	\$1,408
Company B - Option 4	GE	2xLM6000PF	84	24	8800	IP	\$125,800,000	\$1,498
Company D - Option 4	GE	2xLM6000PC	86.5	10.7	8879	IP	\$116,301,702	\$1,345
Company C	Wartsilla	RECIP (5X18)	90	2	Not Provided	IP	\$115,836,000	\$1,287
Company B - Option 1	Siemens	2xSGT-800	85	25	9542	IP	\$115,300,000	\$1,356
Company B - Option 2	GE (Refirb)	2xLM6000PC	82	24	9448	IP	\$106,800,000	\$1,302
Company B - Option 7	Mitsubishi	1 X FT4000	57	29	9156	IP	\$96,600,000	\$1,695
ProEnergy Services LLC	GE (Refirb)	2xLM6000 (42.1)	84.2	10.1	9233	FP	\$69,350,000	\$824
Company F	GE (Refirb)	GE 7EA CTG	71.2	45.4	11727	IP	\$63,050,430	\$886

All Options on the Table

Technology / Option	Purchase Requirements	30Yr Cost	Annual Cost	Annual Market Opportunity	Annual Net Cost	Annual \$/MW
Wind	300MW would give 90MW Capacity	\$1,250M	\$41.7M	\$20.6M	\$21.1M	\$234K
	Even with a 30% reduction of pricing	\$828M	\$27.6M	\$20.6M	\$7.0M	\$78K
Solar	620MW would give 90MW Capacity	\$1,333M	\$44.4M	\$18M	\$26.4M	\$294K
	At current market rates of \$30/MWh	\$834M	\$27.8M	\$18M	\$9.8M	\$109K
Battery	Tech not ready yet, could get 5-10MW					
Dogwood	Ownership at current pricing (interest only payments)	\$288M	\$9.6M	\$7.2M	\$2.4M	\$27K
Capacity	Current rate like Oneta	\$75M	\$2.5M	\$0M	\$2.5M	\$28K
Coal PPA	Like Iatan or NC2 at current agreements	\$630M	\$21M	\$6.4M	\$14.6M	\$162K
No replacement of generation locally	Transmission Projects for grid reliability in addition to any option above (2018 pricing)	\$36M				
Alternate Aero	1 X FT4000 (57MW)	\$97M	\$6.1M	\$1.9M	\$4.2M	\$74K
RICE	5 X 18MW	\$116M	\$6.7M	\$1.4M	\$5.3M	\$59K
New LM6000	2 X 45MW New Aero	\$116M	\$6.7M	\$2.8M	\$3.9M	\$43K
ProEnergy Bid	2 X 45MW Aero dispatchable resource	\$70M	\$4.3M	\$2.5M	\$1.8M	\$20K

PROENERGY - Company

- Global headquarters in Sedalia, Missouri with 900,000 sqft
 - Includes engineering, construction, operations, repair, maintenance, research, and turnkey peaking-power facilities with complete BOP
 - Operational LM6000 Test Stand on Site
 - Fuel Mixtures
 - Operational Efficiencies
- Vertically integrated aero services company since 2002



PROENERGY - Company

- Key Personnel – 25+ Years Industry Experience
- Two Decades of EPC Expertise
- Over 60 installations similar in scope to the IPL project
- Fully Backed Performance Guarantee and Warranty
- Local Sourcing of Materials



PROENERGY - Offering

- PROENERGY PowerFLX Solution
 - Complete Modular Power Package
 - LM6000 Engine Fully Overhauled to 0 hours
 - Balance of Plant (BOP) is new including generator
- LM6000 track record
 - 40 million operating hours
 - Above 99% operational reliability
 - Above 98% availability



PROENERGY - Offering

- Blackstart capable
- Capacity for 4 days of continuous fuel oil operation
- Capable of combusting up to 35% hydrogen blends
- Robust supply chain and long-term sourcing strategy
- Online Summer 2024 (based on approval of LOI at next City Council Meeting)



Financing Options Overview

- Comparison of Yearly Debt Services at industry average 4.5% for 30-year bond issuance

<u>– Total Finance</u>	<u>Annual Debt Service</u>
– \$70M	\$4.3M
– \$80M	\$4.9M
– \$90M	\$5.5M
– \$100M	\$6.1M

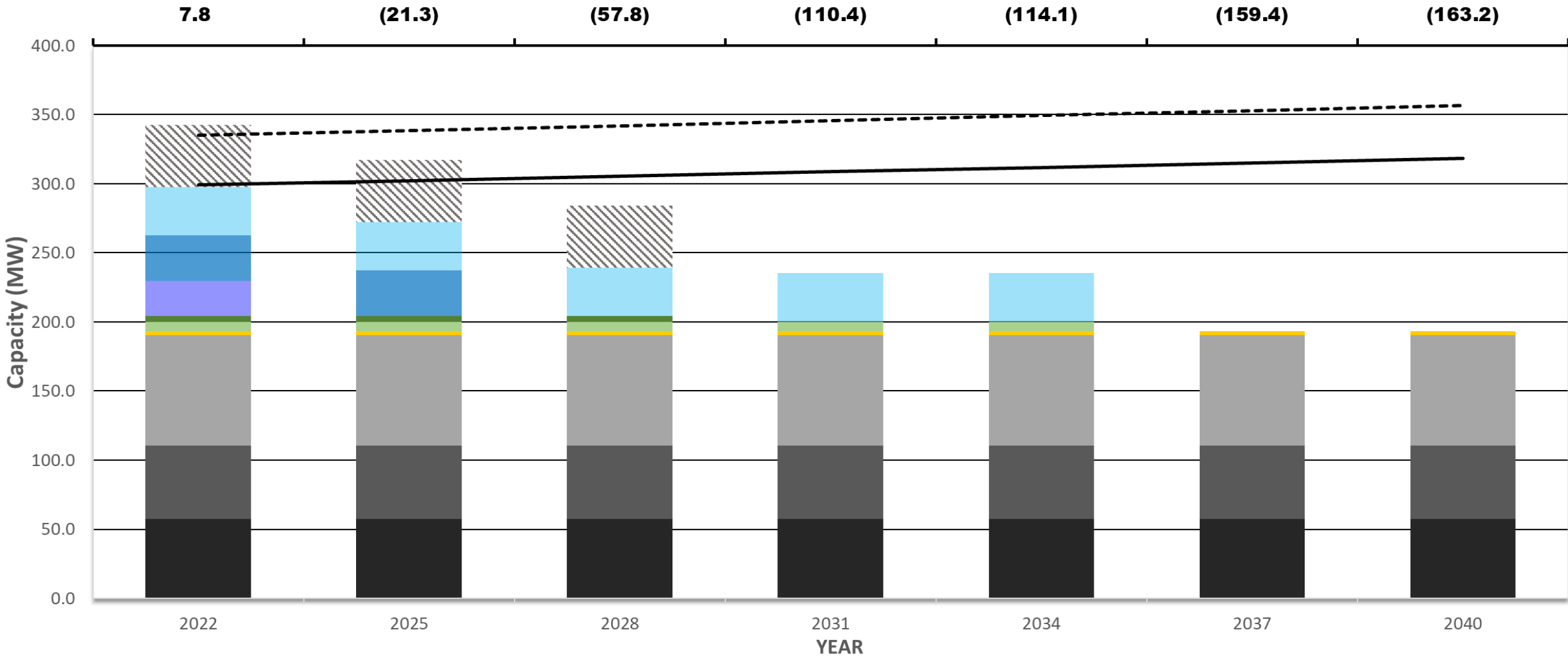
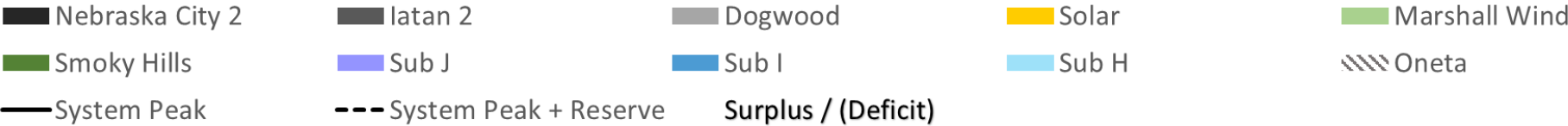


Financing Options Overview

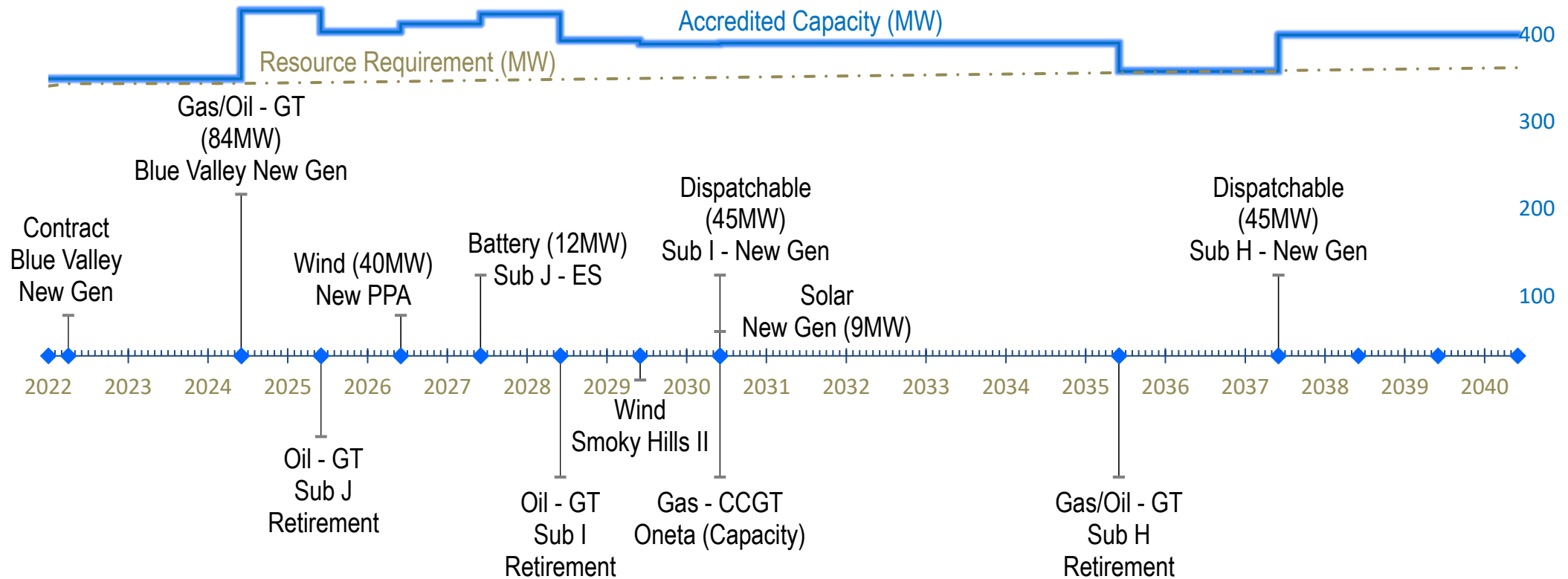
- Will evaluate 2-step financing with a line of credit (much like a home construction loan) followed by bond issuance at completion of project.
- \$4.3M annual debt service - \$2.5M average market opportunity – nets \$1.8M average annual obligation
- Letter of Intent allows Staff to work with PROENERGY Services, LLC on project details and Finance on funding / payment options.



Balance of Load and Resources (MW)



Possible Resource Timeline



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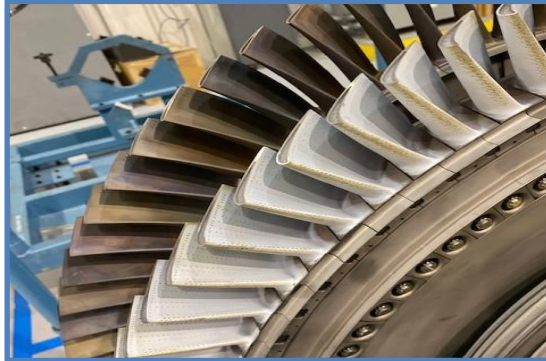


Recommendation

- Waiting will not allow us time to react if we lose or retire a generating unit
- Staff's recommendation is to move forward with a Letter Of Intent with PROENERGY Services, LLC for new generation at Substation A

Questions ?

PROENERGY



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