

Blind Slough Hydro Project
EQUIPMENT BIDS TABULATION
August 31, 2020

Minor defect in proposal

Anti-friction bearings (not lube) (in proposal)

ITEM	GILKES	GILKES	Gilkes Alt Savings	CANYON	CANYON	Canyon Alt Savings	VOITH	VOITH	MAVEL	GLOBAL	COMMENTS
BID	BASE BID	ALT. BID		BASE BID included w/ items	ALT. BID included w/ items		BASE BID	ALT. BID			
1. Engineering	\$ 287,637.00	\$ 247,500.00	\$ 40,137.00				\$ 620,826.00	\$ 615,373.00	\$ 90,500.00	\$ 670,464.00	Bid item 1
2. Turbine	\$ 312,035.00	\$ 310,983.00	\$ 1,052.00	\$ 752,665.41	\$ 668,479.35	\$ 84,186.06	\$ 338,507.00	\$ 338,507.00	\$ 662,250.00	\$ 380,671.00	Bid item 2
3. Generator	\$ 430,035.00	\$ 286,385.00	\$ 143,650.00	\$ 330,984.94	\$ 223,125.00	\$ 107,859.94	\$ 593,543.00	\$ 439,512.00	\$ 675,750.00	\$ 399,022.00	Bid item 3
4. Switchgear	\$ 182,500.00	\$ 181,447.00	\$ 1,053.00	\$ 381,606.12	\$ 254,989.98	\$ 126,616.14	\$ 405,203.00	\$ 264,012.00	\$ 717,000.00	\$ 229,463.00	Bid item 4
5. Controls/protection	\$ 165,974.00	\$ 142,921.00	\$ 23,053.00	\$ 471,553.74	\$ 215,649.00	\$ 255,904.74	\$ 230,811.00	\$ 209,448.00		\$ 281,626.00	Bid item 5
6. HPU	\$ 112,787.00	\$ 45,858.00	\$ 66,929.00	\$ 14,420.44	\$ 7,875.00	\$ 6,545.44	\$ 22,712.00	\$ 22,712.00	\$ 27,500.00	\$ 54,468.00	Bid item 6
7. TIV	\$ 48,080.00	\$ 47,027.00	\$ 1,053.00	\$ 151,263.00	\$ 44,730.00	\$ 106,533.00	\$ 157,839.00	\$ 119,132.00	\$ 130,000.00	\$ 63,452.00	Bid item 7
8. Lube oil skid				\$ 12,617.06	\$ -	\$ 12,617.06	\$ 22,212.00	\$ 16,527.00	\$ 32,000.00	\$ 35,580.00	Bid item 8
9. Video surveillance	\$ 15,026.00	\$ 13,974.00	\$ 1,052.00	\$ 9,012.94	\$ 7,875.00	\$ 1,137.94	\$ 38,236.00	\$ 15,325.00	\$ -	\$ 27,932.00	Bid item 9
10. Spare parts	\$ 120,836.00	\$ 88,513.00	\$ 32,323.00	\$ 135,028.69	\$ 77,890.31	\$ 57,138.38	\$ 119,760.00	\$ 107,374.00	\$ 120,063.00	\$ 111,773.00	Bid item 10
11. Field service erection 40 days	\$ 57,080.00	\$ 38,157.00	\$ 18,923.00	\$ 97,808.80	\$ 50,400.00	\$ 47,408.80	\$ 76,120.00	\$ 76,120.00	\$ 91,000.00	\$ 54,440.00	Bid item 11
12. field service startup 40 days	\$ 128,120.00	\$ 82,551.00	\$ 45,569.00	\$ 96,946.40	\$ 70,560.00	\$ 26,386.40	\$ 118,360.00	\$ 115,840.00	\$ 122,000.00	\$ 261,600.00	Bid item 12
13. 10-day test	\$ 36,080.00	\$ 25,553.00	\$ 10,527.00	\$ 79,924.69	\$ 50,400.00	\$ 29,524.69	\$ 27,678.00	\$ 19,390.00	\$ 26,000.00	\$ 51,792.00	Bid item 13
14. Training	\$ 22,842.00	\$ 13,408.00	\$ 9,434.00	\$ 16,870.88	\$ 21,000.00	\$ (4,129.12)	\$ 15,401.00	\$ 20,137.00	\$ 23,000.00	\$ 11,866.00	Bid item 14
15. O&M manuals	\$ 25,000.00	\$ 5,000.00	\$ 20,000.00	\$ 25,000.00	\$ 5,000.00	\$ 20,000.00	\$ 3,626.00	\$ 3,626.00	\$ 25,000.00	\$ 25,000.00	Bid item 15
16. Record drawings	\$ 25,000.00	\$ 5,000.00	\$ 20,000.00	\$ 25,000.00	\$ 5,000.00	\$ 20,000.00	\$ 3,626.00	\$ 3,626.00	\$ 25,000.00	\$ 25,000.00	Bid item 16
Total	\$ 1,969,032.00	\$ 1,534,277.00	\$ 434,755.00	\$ 2,600,703.11	\$ 1,702,973.64	\$ 897,729.47	\$ 2,792,460.00	\$ 2,386,661.00	\$ 2,767,063.00	\$ 2,684,149.00	Math check
Base bid without tax	\$ 1,969,028.00	\$ 1,534,284.00		\$ 2,600,703.22	\$ 1,702,973.64		\$ 2,792,496.00	\$ 2,386,698.00	\$ 2,767,063.00	\$ 2,684,149.00	
Bid bond submitted? (5% of bid amount)	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 1 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 2 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 3 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 4 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 5 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 7 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 8 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 9 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Addendum 10 acknowledgment?	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Value of spart parts	\$ 120,836.00	\$ 88,513.00		\$ 135,028.69	\$ 135,028.69		\$ 119,760.00		\$ 120,063.00	\$ 111,773.00	Bid item 10
Comments on spare parts											
Warranty (24 months specified)	Yes	Yes		Yes			Yes	3-year warranty	Yes	Yes	
Do major subs provide warranty support?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	
Turbine type	2-jet Pelton	2-jet Pelton		2-jet Pelton	2-jet Pelton		2-jet Pelton		2-jet Pelton	2-jet Pelton	
Alternative turbine type	n/a	n/a		n/a	n/a		n/a			n/a	
Rated output, hp	2946 HP	2947 HP		2187	2188		2938		2949		Bid Form Part 2.1 J
Dia of Inlet pipe	14" (DN 350 mm)	14" (DN 350 mm)		18"	18"						
Runner weight	1577	1577		2200	2200						Bid Form Part 2.1 N
Runner pitch diameter	33.46	33.46		32.7	32.7				33.86		Bid Form Part 2.1 F
Number runner buckets	20	20		21	21				19		
Width of bucket	10.93	10.93		9.6	9.6				10.83		
Minimum stable flow, cfs	1.25	1.25		1.0	1.0		2.5		2.5		Bid Form Part 2.1 D
Maximum flow at 100% nozzle, cfs	27.5 cfs	27.5 cfs		25	25				25		Bid Form Part 1.9B5
Rated speed, rpm	900	900		900	900		900		900		Bid Form Part 2.1 B
Runaway speed, rpm	1650	1650		1620	1620				1590		Bid Form Part 1.9B4
Hours guaranteed at runaway	Indefinite	Indefinite							Continuous		Bid Form Part 1.9B7
Runner material	per spec 48 13 13	per spec 48 13 14		F6NM	F6NM		X3CrNiMo 13-4	X3CrNiMo 13-5	X3-CrNiMo 13-4	X3-CrNiMo 13-5	Bid Form Part 2.1 I
Runner cast or forged?	Forged	Forged		Forged	Forged		Forged	Forged	Forged	Forged	
Minimum runner expected life				40							
CCH-70 quality sheets submitted?	No - sample quality plan included			Yes			No - quality plan included	No - quality plan included			
Deflectors able to operate continuously	Yes			Yes							
Generator bearing cooling system	lube oil set, w/ heat exchanger. air-to-oil cooler	anti-friction bearings grease lube		lube oil set, w/ heat exchanger. air-to-oil cooler	Anti-friction bearings, separate generator bearings - no lube oil set.						
Average annual energy (kW-hr/yr)	11,996,744	11,960,442		11,833,719	11,833,719		11,887,722		11,928,378	11,901,195	From energy model
Shortfall below baseline (kW-hr/yr)	Base	36,302		163,025	163,025		109,022		68,366	95,549	
% shortfall	-	0.30%		1.36%	1.36%		0.91%		0.57%	0.80%	
NPV of shortfall (10c/kW-hr, 5% int., 40 years)	\$ -	\$ 62,294		\$ 279,751	\$ 279,751		\$ 187,082		\$ 117,315	\$ 163,962	life cycle analysis
Guaranteed Dates, days after NTP											
Submittal #1. 60 days requested.	110	110		60	60				60		
Submittal #2. 90 days requested.	160	160		90	90				90		
Submittal #3. 150 days requested.	200	200		150	150				150		
Submittal #4. 280 days requested.	300	300		280	280				280		
Embedded parts delivered. 300 days requested.	300	300		300	300				300		
Everything delivered. 360 days requested.	360	360		360	360				360		
Cost adjustment for delivery (\$3,000.00/day)	\$ -			\$ -			\$ -		\$ -	\$ -	
Hydraulic pipe routing & sizing included?	No	No									
Interconnection wiring included?	No	No									
Arrangement drawings showing equipment	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Powerhouse											
Cost of Powerhouse Structural Impacts	None	None		None	None		None		None	None	
							\$ -				
Experience											
Total exp. with Pelton units (10 yrs or more)	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Hydro in North America (5 projects in last 10 yrs)	Yes	Yes		Yes	Yes		Yes		Yes	Yes	
Generator manufacturer	WEG, Brazil	WEG, Brazil		Marelli Motori	Marelli Motori		Koncar, Croatia	Toyo Denki, India			Bid Form 2.3
Type	2599 kVA, Class B rise, 2400 v Sallient pole	2588 kVA, Class B rise		2100 kW	2101 kW						Bid Form 2.3D
Exciter	WEGBrushless	WEGBrushless		Marelli	Marelli						Bid Form 2.3W

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Minor defect in proposal
When details are final show in proposal

ITEM	GILKES	GILKES	Gilkes Alt Savings	CANYON	CANYON	Canyon Alt Savings	VOITH	VOITH	MAVEL	GLOBAL	COMMENTS
Voltage regulator	Basler DECS 250N	Basler DECS 250N		Basler DECS 250	Basler DECS 251						Bid Form 2.3X
Bearings	Renk / Zollern forced lube oil	Antifriction bearings - Grease lube		Renk, Zollern or equal	Separate turbine and generator bearings						Bid Form 2.3BB
Bearing cooling	Oil, forced lube & oil/air cooler	None		Forced oil	No lube oil skid - self contained anti-friction bearings						Bid Form 2.3CC
TIV manufacturer	Armature Group 14" Class 600 Ball Valve	Armature Group 14" Class 600 Ball Valve		TB Hydro Class 300 Ball Valve 18"	Bray 18" Class 300			TB Hydro			
Operator	Hydraulic w/ counter weight	Hydraulic w/ counter weight		Hydraulic w/ counter weight	Hydraulic - no counter weight						
Electrical and Controls subcontractor	OS Engineering	OS Engineering		Eaton			OS Engineering	OS Engineering			Bid Form 2.6
Controls subcontractor sufficient experience?											
PLC	GE RX3i, IC695CPE305	ABB 1769-L33ER		Emerson Rx3i							
SCADA	SEL RTAC 3555#2KBF	Prosoft Modbus Gateway									
Switchgear supplier	Eaton	Eaton		Eaton	Eaton / Bat Electric						Bid Form 2.5
	Medium voltage, narrow - requires rear access - other options available at added cost	Medium voltage, narrow - requires rear access - other options available at added cost		MV Metal enclosed front accessible	Metal-Clad MV Vac-Clad						
Type											
Rated voltage	5 kV	5 kV		5 kV	5 kV						
Continuous rating	1200 A	1200 A		1200 A	1200 A						
BIL	60 kV	60 kV		60 kV	60 kV						
Rated momentary	29 kA	29 kA		32 kA	25 kA						
Circuit breaker	Eaton	Eaton		Eaton VCP-T	Eaton VCP-W						
Circuit breaker interrupting current	27.5 kA SCCR @ 2.4 kV	27.5 kA SCCR @ 2.4 kV		1200 A	1200 A						
HPU supplier	TA Savery (UK)	TA Savery (UK)		Kaman Fluid Power Spokane	Kaman Fluid Power Spokane						Bid Form 2.4
AC pumps	(2) 4 HP	(2) 4 HP									
DC pump	(1) .75 kW	(1) .75 kW									
Basis for hydraulic performance of turbine	Provided.	Provided.									
Exceptions	Additive costs depending on switchgear selection. LD's capped at 10% for delivery delays LD's capped at 10% for performance short fall OS Engineering limits startup support to 25 days Detailed compnent drawings will not be sbmitted Nozzle bodies cast iron Generator shaft 4140 steel Lube oil and hydraulic oil not supplied Ball valve seals cannot be replaced with valve in place Switchgear arrangement proposed is different than specified.	LD's capped at 10% for delivery delays LD's capped at 10% for performance short fall		LD's capped at 10%	LD's capped at 10%						
Payment terms											
Upon executioun of contract	10%			10%	10%						
Upon general arrangement and foundation drawings	25%			25%	25%						
Upon acceptance of runner forging MTR	30%										
Upon completion of runner machining				25%	25%						
Upon shipping				20%	20%						
Upon delivery to site	25%			15%	15%						
Upon completion of commissioning or 12 months after delivery	10%			5%	5%						
Notes											
Normalize Bids											
				Renk, Zollern or equal							
	\$ -			\$ -			\$ -		\$ -		
	\$ -			\$ -			\$ -		\$ -	\$ -	
Modification for field piping:	\$ -			\$ -			\$ -		\$ -		
Modification for field wiring:	\$ -			\$ -			\$ -		\$ -		
Value of spare parts (credit to Owner):	\$ (120,836.00)			\$ (135,028.69)			\$ (119,760.00)		\$ (120,063.00)	\$ (111,773.00)	
Cost of energy (difference from baseline)	\$ -			\$ 279,750.90			\$ 187,082.22		\$ 117,315.36	\$ 163,962.26	
Cost of changes to powerhouse:											
NORMALIZED BID PRICE:	\$ 1,848,192.00			\$ 2,745,425.43			\$ 2,859,818.22		\$ 2,764,315.36	\$ 2,736,338.26	
Rank	1			3			5		4	2	