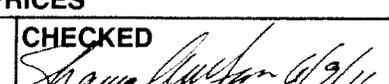


FEATURE: Klamath River Dams Removal Partial Removal Option JC Boyle Dam & Powerplant Removal Most Probable 50 Year Life Cycle Summary	PROJECT: Klamath River Oregon	
	WOID: AF652	ESTIMATE LEVEL: Feasibility
	REGION: MP	UNIT PRICE LEVEL: Jul-10
	FILE: U:\2011 Projects\Klamath\002 Completed Sheets\MP MPL MPH\03 - JC Boyle\MP\JC Boyle	

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
		Periodic Costs - Year 1					\$348,520.00
		Periodic Costs - Year 8					\$166,451.00
		Periodic Costs - Year 17					\$165,990.00
		Periodic Costs - Year 25					\$83,724.60
		Periodic Costs - Year 33					\$86,935.20
		Periodic Costs - Year 42					\$42,113.00
		Periodic Costs - Year 50					0.00
		Annual Costs - Maintenance					\$1,892,705.00
		(Assumes gov't service / construction contracts)					
		Subtotal 1					\$2,786,438.80
		Mobilization	5%	+/-			\$140,000.00
		Subtotal 1 with Mobilization					\$2,926,438.80
		Escalation to Notice to Proceed (NTP): from Unit Price Level (July, 2010) to NTP (July, 2020)					\$1,006,450.20
		at 3.0% per year for 120 months.					
		Subtotal 2 = Subtotal 1 with Mobilization + Escalation to NTP					\$3,932,889.00
		Design Contingencies	10%	+/-			\$367,111.00
		Subtotal 3 = Subtotal 2 + Design Contingencies					\$4,300,000.00
		Allowance for Procurement Strategies (APS)	0%	+/-			
		Type of solicitation assumed is: Competitive Request for Proposal					
		Subtotal 4 = Subtotal 3 + APS					\$4,300,000.00
		TERO Fee (__% of Total Contract)		+/-			
		Subtotal 5 = Subtotal 4 + TERO Fee					\$4,300,000.00
		CONTRACT COST					\$4,300,000.00
		Construction Contingencies	20%	+/-			\$900,000.00
		FIELD COST					\$5,200,000.00
		Non-Contract Costs	30%	+/-			\$1,600,000.00
		(Environmental Cultural / Mitigation ~ 7%, Engineering Design ~ 5%, Maintenance Service Contract ~ 5% Procurement ~ 2%, Inspections ~ 10% and Closeout ~ 1%)					
		CONSTRUCTION COST					\$6,800,000.00
Note: initial estimate completed 4/17/11, revised non-contract costs 5/12/11, design contingency costs 6/9/11 Ref.: For appropriate use and terminology, see Reclamation Manual, Directives and Standards FAC; 09-01, 09-02 and 09-03.							

QUANTITIES		PRICES	
BY Rick Benik	CHECKED Stephen Latham	BY  Greg Akins	CHECKED  Shawn
DATE PREPARED 03/24/11	PEER REVIEW / DATE Tom Hepler P.E. 3/25/11	DATE PREPARED 6/9/11	PEER REVIEW / DATE DCD 6/13/11

FEATURE: Klamath River Dams Removal Partial Removal Option JC Boyle Dam & Powerplant Removal Most Probable Life Cycle	PROJECT: Klamath River Oregon	
	WOID: AF652	ESTIMATE LEVEL: Feasibility
	REGION: MP	UNIT PRICE LEVEL: Jul-10
	FILE: U:\2011 Projects\Klamath\002 Completed Sheets\MPL MPH\03 - JC Boyle\MPL\JC Boyle	

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	1	Remove paint on downstream face of power house (assume paint contains heavy metals)	86-68130	900	ft2	\$30.00	\$27,000.00
	2	Furnish, install, and maintain a 7-foot-high chain line fence around both ends of the 14-foot diameter penstock and the intake structure (assume fence includes two 3-foot-wide access gates) (assume replace two times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	1,450	lf	\$60.00	\$87,000.00
	3	Repaint 14-foot-diameter penstock pipe between intake structure at dam and headgate structure (assume repaint 5 times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	32,000	ft2	\$4.00	\$128,000.00
	4	Repaint rocker bent penstock pipe supports (assume repaint 5 times)	86-68130	3,000	ft2	\$6.00	\$18,000.00
	5	Repaint penstock intake structure trashracks (four separate 11.5-ft-wide by 40-ft-high openings) (assume repaint 5 times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	4,200	ft2	\$6.00	\$25,200.00
	6	Repaint outside of fish screen building on top of penstock intake structure (assume repaint 5 times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	3,900	ft2	\$6.00	\$23,400.00
	7	Repaint wheel gate in penstock intake structure (assume repaint 5 times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	510	ft2	\$12.00	\$6,120.00
	8	Repaint wheel gate hoist frame (Assume repaint 5 times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	2,000	ft2	\$7.00	\$14,000.00
LIFE CYCLE SUBTOTAL: SHEET 1							\$328,720.00

QUANTITIES		PRICES	
BY Rick Benik	CHECKED Stephen Latham	BY <i>Greg Atkins</i> Greg Atkins	CHECKED <i>Shaunna</i> 5/13/11
DATE PREPARED 03/24/11	PEER REVIEW / DATE Tom Hepler P.E. 3/25/11	DATE PREPARED 4/25/11	PEER REVIEW / DATE <i>DCD</i> 5/13/11

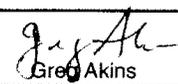
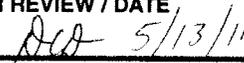
FEATURE: Klamath River Dams Removal Partial Removal Option JC Boyle Dam & Powerplant Removal Most Probable Life Cycle	PROJECT: Klamath River Oregon <hr/> WOID: AF652 ESTIMATE LEVEL: Feasibility REGION: MP UNIT PRICE LEVEL: Jul-10 FILE: U:\2011
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PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	9	Repaint stop log storage beams & columns on intake structure and walkway (Assume repaint 5 times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	1,000	ft2	\$9.00	\$9,000.00
	10	Repaint stop logs for wheel gate (Assume repaint 5 times) <i>Estimate assume minor paint repair ~ 2%</i>	86-68130	1,200	ft2	\$9.00	\$10,800.00
	11	Maintain existing 7-ft-high chain link fence around headgate structure (fence includes 12-foot-wide access gate) (assume replace two times)	86-68130	180	lf	0	0
LIFE CYCLE SUBTOTAL: SHEET 2							\$19,800.00
LIFE CYCLE TOTAL: JC BOYLE							\$348,520.00

QUANTITIES		PRICES	
BY Rick Benik	CHECKED Stephen Latham	BY <i>Greg Akins</i> Greg Akins	CHECKED <i>Seamus Mac...</i> 5/13/11
DATE PREPARED 03/24/11	PEER REVIEW / DATE Tom Hepler P.E. 3/25/11	DATE PREPARED 4/25/11	PEER REVIEW / DATE <i>DCW</i> 5/13/11

FEATURE: Klamath River Dams Removal Partial Removal Option Removal Site Maintenance Most Probable Life Cycle - 50 Year Operation and Maintenance - Periodic Costs	PROJECT: Klamath River Oregon	
	WOID: AF484	ESTIMATE LEVEL: Feasibility
	REGION: MP	UNIT PRICE LEVEL: Jul-10
	FILE: U:\2011 Projects\Klamath\002 Completed Sheets\MPL MPL MPH\03 - JC Boyle\MPL\JC Boyle Probable.xlsx\O&M	

PLANT ACCOUNT	PAY ITEM	DESCRIPTION	CODE	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	1	Site Maintenance - Annual: JC Boyle site only*		1	LS	\$90,000.00	\$90,000.00
		Labor needed per year - three sites	86-68130	120	mdy**		
		3-Man maintenance crew					
		6 Months active inspection/maintenance					
		2 Weeks full time (1 month each spring)					
		4 Full days, 2 times each month (5 months)					
		Site maintenance required at JC Boyle, Copco 1 & Copco 2					
		<i>Estimate prorated the time at each dam site based on percent of total partial removal construction costs</i>					
		Equipment needed per year	86-68130	40	dy***		
		1-Service truck					
		Includes compressor, welder, generator and general tools					
		<i>Estimate prorated the time at each dam site based on percent of total partial removal construction costs</i>					
		Materials needed per year (percentage of labor & equipment)	86-68130	15%			
		Road maintenance needed per year (percentage of labor & equipment)	86-68130	10%			
		<i>*Total estimated cost for all 3 sites is approximately \$161,000 annually: prorated +55% for the JC Boyle site</i>					
		<i>** Man days per year for 50 years</i>					
		<i>***Days per year for 50 years</i>					
SUBTOTAL THIS SHEET							\$90,000.00

QUANTITIES		PRICES	
BY Rick Benik	CHECKED Stephen Latham	BY  Greg Akins	CHECKED  5/13/11
DATE PREPARED 04/18/11	PEER REVIEW / DATE Tom Hepler P.E. 4/18/11	DATE PREPARED 4/25/11	PEER REVIEW / DATE  5/13/11