

HUAI MAE SOT HYDROPOWER PROJECT
CONTRACT C-2
SCHEDULE 3 - Summary of Prices

Item No.	Details	Total Price (Baht)
1	Total Price of Equipment	
2	Total Price of Spare Parts	
3	Total Price of Maintenance Tools and Instruments*	
4	Price of Shop Tests	
5	Price of Erection	
6	Price of Field Tests	
	SUB - TOTAL	
	VAT 7%	
GRAND TOTAL BID PRICE		



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SCHEDULE 4 - SUMMARY PRICES OF EQUIPMENT

Item No.	Details	Total Price (Baht)
1	Turbines and Governors	
2	Inlet Valves & Surge Anticipation Valves	
3	Mechanical Auxiliary Equipment	
4	Generators and Auxiliaries	
5	AC Station Service Transformer and AC Switch Board	
6	Generator Terminal Cubicles, Bus Ducts, and Neutral Cubicles	
7	Control, Protection and Measures	
8	Main Transformers	
9	Line Protection Equipment (If Require)	
10	Grounding System	
11	Electrical Auxiliary Equipment	
SUB - TOTAL		



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SCHEDULE 4 - PRICES OF EQUIPMENT

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
1	<u>Turbine and Governor</u>				
	(1) Turbine	1	set		
	(2) Governor (incl. Pumping Set)	1	set		
	Sub - Total				
2	<u>Inlet Valve</u>				
	(1) Inlet Valve	1	set		
	(2) Surge Anticipation Valve	3	set		
	Sub - Total				
3	<u>Mechanical Auxiliary Equipment</u>				
	(1) Unit Cooling Water System	1	set		
	(2) Compressed Air System (If necessary)	1	LS		
	(3) Portable Fire Extinguishers	1	LS		
	(4) Overhead Traveling Crane	1	set		
	Sub - Total				
4	<u>Generator and Auxiliaries</u>				
	(1) Generator	1	set		
	(2) Excitation System	1	set		
	Sub - Total				
5	<u>AC Station Service Transformer and AC Switch Board</u>				
	(1) AC Station Service Transformer	1	set		
	(2) AC Switch Board	1	set		
	(3) 22 kV Drop-out Fuse Cutouts	1	set		
	Sub - Total				



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
6	<u>Generator Terminal Cubicle, Bus Ducts and Neutral Cubicle</u>				
	(1) Generator Circuit Breaker Cubicle	1	set		
	(2) Generator PT, CT Cubicles	1	set		
	(3) Generator Neutral Cubicle	1	set		
	(4) Station Service Transformer Cubicle	1	set		
	Sub - Total				
7	<u>Control, Protection and Measures</u>				
	(1) Control, Protection and Measures	1	set		
	Sub - Total				
8	<u>Main Transformer</u>				
	(1) Main Transformer	1	set		
	Sub - Total				
9	<u>Line Protection Equipment</u>				
	(1) Recloser, pole-mounted, Outdoor Type	1	set		
	(2) Electronic Controls	1	set		
	Sub - Total				
10	<u>Ground System</u>				
	(1) Ground System	1	LS		
	Sub - Total				
11	<u>Electrical Auxiliary Equipment</u>				
	(1) Cable Trays and Support	1	lot		
	(2) Conduit, Boxes and Fitting	1	lot		
	(3) HV Cable	1	lot		
	(4) 750 V Wire and Cable	1	lot		
	(5) Control Cable	1	lot		
	(6) Station Clocks	2	sets		
	(7) Motor Control Center (if required)	1	set		
	Sub - Total				

HUAI MAE SOT HYDROPOWER PROJECT
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SCHEDULE 5 - PRICES FOR SPARE PARTS

The spare parts for the Plant shall include those specified below plus the additional recommended spare parts which shall be listed individually for each item.

The spare parts listed below shall be supplied in accordance with Clause S1.05.

The prices for recommended spare parts shall not be included in the prices stated in Schedule 3.

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Specified Spare Part for Item 1(a) Turbines and Governors</u>				
1.1	Shear pin	2	sets		
1.2	Rotating runner seals	2	sets		
1.3	Fixed runner seals	2	sets		
1.4	Wearing plates for turbine	2	sets		
1.5	Guide vane bushes and sleeves	2	sets		
1.6	Guide vane	2	pieces		
1.7	Shaft sleeves and seals	2	sets		
1.8	Complete set of governor actuator	1	set		
1.9	Wearing parts for governor regulating valve and pilot valve	1	set		
1.10	Replacable parts for unloader valve	1	set		
1.11	Governor oil pump and motor	1	set		
1.12	Piston and gland packings for guide vane servomotor	2	sets		
1.13	Packing seals and gaskets for the turbines, governors,	1	set		
1.14	Motor or solenoid for each type and size of electrically operated valve	1	set		
1.15	Limit switch of each type	1	set		
1.16	Temperature, level, pressure, and flow relays of each type	1	set		
1.17	Valves, complete of each size and type used of 50 mm. nominal bore and below including control valves and their actuators	2	sets		
1.18	Printed circuit card of each type	1	set		
1.19	1 auxiliary relay of each kind	1	set		
1.20	1 control device of each kind	1	set		
Total for Item 1 (a)					



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SCHEDULE 5 - PRICES FOR SPARE PARTS

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 1(b) Turbines and Governors</u> (To be Completed by Bidder)				
Total for Item 1 (b)					



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SCHEDULE 5 - PRICES FOR SPARE PARTS

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Specified Spare Part for Item 2(a)</u> <u>Inlet Valves</u>				
2.1	Packing seals and gaskets	2	sets		
2.2	Motor or solenoid for each type and size of electrically operated valve	2	sets		
2.3	Limit switch of each type	2	sets		
Total for Item 2 (a)					



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 2(b) Inlet Valves</u> (To be Completed by Bidder)				
Total for Item 2 (b)					



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Specified Spare Parts for Item 3(a)</u>				
	<u>Mechanical Auxiliary Equipment</u>				
3.1	Cooling water strainer	1	set		
3.2	Replaceable parts for reducing valve and relief valve (if fitted)	1	set		
3.3	Air compressor valves	1	set		
3.4	Air compressor piston rings and bearings	1	set		
3.5	Air compressor gaskets	1	set		
3.6	Air filters for air conditioning plant	1	set		
3.7	1 set of lined shoes for each brake crane	1	lot		
3.8	1 set of brushes complete with brush holder for each wound rotor motor	1	lot		
3.9	Inserts for collectors for longitudinal travel	1	set		
3.10	1 complete contactor of each size and type	1	lot		
3.11	1 limit switch of each type	1	lot		
3.12	1 set of piston ring, oil ring	1	lot		
3.13	1 set of fuel injection valve	1	lot		
3.14	Generator bearing metal	1	lot		
3.15	Generator collector ring brush and brush holder	1	lot		
3.16	Motor for cooling water motorized valve	1	set		
Total for Item 3 (a)					



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 3(b) Mechanical Auxiliary Equipment</u> (To be completed by Bidder)				
Total for Item 3 (b)					



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SCHEDULE 5 - PRICES FOR SPARE PARTS

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Spare Spart for Item 4(a) Generator and Ancillaries</u>				
4.1	Stator coil (including insulation material, wedge, and other necessary materials for coil replacement)	12	coils		
4.2	Field coil (including necessary materials for coil replacement)	1	pair		
4.3	Generator bearing metals of each type	1	set		
4.4	Temperature relay, vapor pressure type thermometer and other relays	1	set		
4.5	Valves of each kind	1	set		
4.6	Speed signal generator	1	set		
4.7	O-rings for oil and water circuits of the bearings	1	set		
4.8	Limit switch of each type	1	set		
4.9	1 current transformer of each type and rating	1	lot		
4.10	Excitation System (all of each kind)				
	- Breakers	1	set		
	- Silicon diode	6	set		
	- Thyristor	6	set		
	- printed circuit cards of each type	2	set		
	- Current transformers	1	set		
	- Relays	2	set		
	- Control motor	1	set		
4.11	Miscellaneous Items				
	- Auxiliary relays of each kind	1	lot		
Total for Item 4 (a)					



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 4(b) Generators and Ancillaries</u> (To be completed by Bidder)				
Total for Item 4 (b)					



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Specified Spare Part for Item 5(a) AC</u> <u>Station Service Transformer and</u> <u>AC Switchboard</u>				
5.1	1 temperature relay of each type	1	lot		
5.2	Main and auxiliary contacts for fuse load interrupting switch	1	set		
5.3	3-0.4 kV fuse	1	set		
5.4	1 main and auxiliary contacts for air circuit breaker of each type	1	lot		
5.5	1 coils or motors for air circuit breaker of each type (closing and tripping)	1	lot		
5.6	1 current transformer of each type and rating	1	lot		
5.7	1 voltage transformer of each type and rating	1	lot		
5.8	2 fuse carriers of each type and size	1	lot		
5.9	1 protection relay of each type	1	lot		
5.10	1 auxiliary relay of each type	1	lot		
5.11	50 pieces of indicating lamp	1	lot		
5.12	1 no fuse breaker of each type	1	lot		
Total for Item 5 (a)					



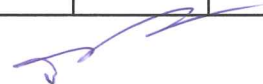
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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 5(b) AC Station Service Transformer and Ac Switch board</u> (To be completed by Bidder)				
Total for Item 5 (b)					



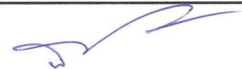
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SCHEDULE 5 - PRICES FOR SPARE PARTS

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Specified Spare Part for Item 6(a) Generator Terminal Cubicle, Bus Ducts, Neutral Cubicle</u>				
6.1	Generator circuit breaker	1	set		
6.2	Main and auxiliary contacts for generator circuit breaker	1	lot		
6.3	1 coil or motor for generator circuit breaker (closing and tripping)	1	set		
6.4	1 current transformer of each type	1	lot		
6.5	1 voltage transformer of each type	1	lot		
6.6	3 insulator for bus duct of each type	1	lot		
6.7	1 no fuse breaker of each type	1	lot		
6.8	2 fuse carriers of each type and size with replacement fuse	1	lot		
6.9	50 pieces of indicating lamp	1	lot		
	Total for Item 6 (a)				



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 6(b)</u> <u>Generator Terminal Cubicles, Ducts and Switchgears</u> (To be completed by Bidder)				
Total for Item 6 (b)					



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Specified Spare Parts for Item 7(a) Control Protection and Measures</u>				
7.1	1 instrument (including metering devices) of each type	1	lot		
7.2	2 control devices of each type	1	lot		
7.3	1 indicating device of each type	1	lot		
7.4	1 protection relay of each type	1	lot		
7.5	1 power supply unit and printed circuit card of each type used in the control system	1	lot		
7.6	100 pieces of indicating lamp	1	lot		
7.7	Charts (2 years supply of each recorder)	1	lot		
7.8	Pen for each type of recorder	1	lot		
7.9	Ink for pen (2 years supply of each recorder)	1	lot		
	Total for Item 7 (a)				



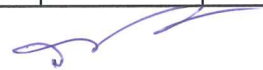
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SCHEDULE 5 - PRICES FOR SPARE PARTS

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 8(b) Control, Protection and Alarm Systems</u> (To be completed by Bidder)				
Total for Item 7 (b)					



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SCHEDULE 5 - PRICES FOR SPARE PARTS

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Specified Spare Parts for Item 8(a) Main Transformers</u>				
8.1	1 each of high voltage, low voltage and neutral bushings	1	lot		
8.2	Gaskets	1	set		
8.3	1 temperature, level, pressure and flow relay of each type	1	lot		
8.4	1 indicating instrument of each type including associated transducers	1	lot		
8.5	Breathing device	1	set		
8.6	1 thermostate at of each type	1	lot		
Total for Item 8 (a)					



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for Item 8(b) Main Transformers</u> (To be completed by Bidder)				
Total for Item 8 (b)					



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Item No.	Details	Quantity	Unit	Unit Baht/Unit	Total (Baht)
	<u>Specified Spare Parts for Item 9(a) Line Protection Equipment</u>				
9.1	1 main and auxiliary contacts for line circuit breaker	1	lot		
9.2	1 main and auxiliary contacts for line disconnecting switch	1	lot		
9.3	1 current transformer of each type	1	lot		
9.4	1 voltage transformer of each type	1	lot		
9.5	1 coil or motor for line circuit breaker (closing and tripping)	1	lot		
9.6	1 lightning arrester	1	sets		
9.7	1 no-fuse breaker of each type	1	lot		
9.8	1 fuse carriers of each type and size with replacement fuse	1	lot		
9.10	40 pieces of indicating lamp	1	lot		
	Total for Item 9 (a)				



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Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for</u> <u>Item 9(b) Line Protection Equipment</u> (To be completed by Bidder)				
Total for Item 9 (b)					



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SCHEDULE 5 - PRICES FOR SPARE PARTS

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
	<u>Additional Recommended Spare Parts for</u> <u>Item 10(b) Miscellaneous Electrical</u> <u>Equipments</u> (To be completed by Bidder)				
Total for Item 10 (b)					



HUAI MAE SOT HYDROPOWER PROJECT
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SCHEDULE 6 – PRICES OF MAINTENANCE TOOLS AND
INSTRUMENTS

Maintenance tools and instruments for all Plant shall be provided in accordance with Clause S1.04.

The individual tools and appliances provided for each Item shall be listed below with the corresponding prices stated for each and the total prices shall be included against Item 3 in Schedule 1.

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
1	<u>Maintenance Tools and Instruments for all Items (S1.05)</u>				
1.1	Portable oil centrifuge unit (list to be provided below)	1	lot		



HUAI MAE SOT HYDROPOWER PROJECT
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SCHEDULE 6 – PRICES OF MAINTENANCE TOOLS AND INSTRUMENTS

Maintenance tools and instruments for all Plant shall be provided in accordance with Clause S1.04.

The additional recommended of maintenance tools and instruments shall be listed below and shall not be included in the prices stated in Schedule 1.

Item No.	Details	Quantity	Unit	Unit Rate Baht/Unit	Total (Baht)
2	<u>Additional Recommended of Maintenance Tools and Instruments for all Items</u> (list to be provided below)				
Total for Schedule 6					

