

Appendix 2A

Scope of supply list

Project Name:

Randolph Harley Power Plant – LG
Engines

Customer:

USVI Water and Power Authority

Offered scope of supply

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
A	POWER GENERATION EQUIPMENT				
A1	GENERATING SET				
A1.1	ENGINE				
	Wärtsilä 20V32LG engine, 720 rpm with aux. LG pumps, 2 pcs each unit	4	X		
	Common base frame	4	X		
	Base frame fastening equipment and free end pipes	4	X		
	Flexible connections between engine and external piping	4	X		
	Generating set assembly	4	X		
	Set steel springs	4	X		
	Engine maintenance platform - prefabricated	4	X		
	Earthquake dampers	4	X		
A1.2	GENERATOR				
	Generator - 13800 Volts; 60Hz	4	X		
	Flexible coupling	4	X		
	Flywheel cover	4	X		
A2	MECHANICAL AUXILIARY SYSTEMS				
A2.1	AUXILIARY MODULES				
	Engine auxiliary module appendix	4	X		
	Engine auxiliary module	4	X		
	Engine auxiliary module - platform	4	X		
A2.2	FUEL SYSTEM				
A2.2.6	GAS SYSTEM				
	Plant isolation valve (manual)	1	X		
	EFB booster unit, LG 22-25 bar (g)	4	X		
	Isolation valves feeder 20 bar + filtration liquid LG fuel common header for 4 engines	1	X		
	Gas collection system 0,6 bar, 5-12 barg, LG 0,9 for liquefying for LG mode	1	X		
	Cold vent for safety valves common system	1	X		
	Low pressure compressor	1	X		
	2nd stage compressor for liquefying	1	X		
	LFO pilot feeder unit, with 3 pumps	1	X		
	LFO main feeder unit - common	1	X		
	LFO transfer unit - common	1	X		
	LFO Automatic filter unit - common	1	X		
	LFO duplex filter unit - common	1	X		

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	LFO pilot fuel flow meter -common	1	X		
	LFO main flow meter -common	1	X		
	LPG Storage tank for RTO	1	X		
	Flow meters	12	X		
A2.2.6.1	GAS SYSTEM PIPING				
	LG engine piping and valves	4	X		
	Flexible connection	4	X		
	LPG pipeline from Vitol storage tank to GPRS unit	1	X		
	IPOS interconnection	1	X		
A2.3	LUBRICATING OIL SYSTEM				
	New lubricating oil tank for W32LG	1	X		
	New lubricating oil tank equipment	1	X		
	Lubricating oil used/ service tank used for W32LG	1	X		
	Lubricating oil used / service tank equipment	1	X		
	Lubricating oil transfer pump – stationary	1	X		
	Lubricating oil transfer pump - mobile	1	X		
	Oil mist separator units	4	X		
	Lubricating oil heat exchanger (mounted on the engine)	4	X		
	Lubricating oil thermostatic valve (mounted on the engine)	4	X		
A2.3.1	LUBRICATING OIL SYSTEM PIPING				
	Piping and valves - lubricating oil system	1	X		
A2.4	COMPRESSED AIR SYSTEM				
	Instrument air compressor unit	1	X		
	Starting air bottle	2			X
A2.4.1	COMPRESSED AIR SYSTEM PIPING				
	Piping and valves - compressed air system	1	X		
A2.5	COOLING SYSTEM				
	Set cooling radiator	4	X		
	Set cooling radiator ladder and railings	1	X		
	Low temperature circuit expansion vessel	4	X		
	High temperature circuit preheating unit (mounted on the Engine auxiliary module)	4	X		
	Low temperature thermostatic valve (mounted on the Engine auxiliary module)	4	X		
	High temperature thermostatic valve (mounted on the Engine auxiliary module)	4	X		
A2.5.1	COOLING SYSTEM PIPING				
	Piping and valves - cooling system	1	X		
A2.6	INTAKE AIR SYSTEM				

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Charge air filter - combined oil wetted and dry	4	X		
	Rain hood for charge air filters	4	X		
	Charge air silencer	8	X		
	Charge air ducting	4	X		
A2.7	EXHAUST SYSTEM				
	Exhaust gas branch pipe	4	X		
	Exhaust gas silencer	4	X		
	Exhaust gas bellows	12	X		
	Exhaust gas ducting - insulated insulation and cladding up to exhaust gas silencer	1	X		
	Exhaust gas ducting	1	X		
	Exhaust gas stack pipe	4	X		
	Cladding for exhaust gas stack ducting	1	X		
A2.7.1	EXHAUST SYSTEM PIPING				
	Piping and valves - exhaust gas system	1	X		
A2.8	OILY WATER SYSTEM				
	Oily water transfer pump unit	2			X
	Existing system	1			X
	Sludge tank equipment	1			X
	Sludge transfer pump unit	1			X
A2.8.1	OILY WATER SYSTEM PIPING				
	Piping and valves - insulated, oily water system, day tank area	1			X
	Piping and valves - insulated, oily water system, engine hall	1			X
	Piping and valves - insulated, oily water system, outdoor auxiliary area	1			X
	Piping and valves - oily water system,	1	X		
A2.9	WATER TREATMENT SYSTEM				
	Piping extension only	1	X		
A2.9.1	WATER TREATMENT SYSTEM PIPING				
	Piping and valves - water treatment system, engine hall	1			X
	Piping and valves - water treatment system, outdoor auxiliary area	1			X
	Piping and valves - water treatment system, other power plant areas	1			X
	Piping and valves - water treatment system, day tank area	1	X		
A2.10	FIRE PROTECTION SYSTEM				
A2.10.1	FIRE PROTECTION, COMMON				
	Existing system	1	X		

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Piping and valves - insulated, fire protection system, pipe route between tank area and engine hall	1	X		
	Wärtsilä tie in existing system, and add additional fire protection system	1	X		
A2.10.3	FIRE PROTECTION, DAY TANK AREA				
	Piping and valves - fire protection system, day tank area	1			X
A2.10.5	FIRE PROTECTION, ELECTRICAL EQUIPMENT BUILDING				
	Portable fire extinguisher - CO ₂ type	9			X
	Portable fire extinguisher - dry powder type	1			X
	Piping and valves - fire protection system, electrical equipment building	1	X		
A2.10.26	FIRE PROTECTION, STATION AUXILIARY TRANSFORMER AREA				
	Portable fire extinguisher - dry powder type	1			X
A2.10.27	FIRE PROTECTION, POWER TRANSFORMER AREA				
	Portable fire extinguisher - dry powder type	1			X
A2.11	PIPE SUPPORTS AND CROSSEOVERS				
	Set pipe secondary supports	1	X		
	Cooling water pipe crossover	1	X		
A5	EMISSION CONTROL AND MONITORING SYSTEMS				
A5.1	NOx CONTROL SYSTEM				
	SCR unit for LG engine	4	X		
	Insulation and cladding for selective catalyst	4	X		
	Piping and valves –insulated set	1	X		
	Urea tank equipment	1	X		
	Urea Storage tank 500m3	1	X		
	Urea pipeline from unloading to Urea tank to SCR unit	1	X		
	SCR unit price increase to fulfil 9MW output and capacity flow increase	4	X		
	VOC unit price increase to fulfil 9MW output and capacity flow increase	4	X		
	Swing set for SCR catalyst	1	X		
	Unloading station for Urea storage tank	1	X		
	Urea filter unit	1	X		
	Urea day tank 50 m3	1	X		
A5.2	VOC AND CO CONTROL SYSTEM				
	Exhaust gas bellows	8	X		
	VOC system (RTO system with control)	4	X		
A5.2.1	VOC CONTROL SYSTEM PIPING				
	Piping and valves –insulated, VOC control system	4	X		

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
A5.6	CONTINUOUS EMISSION MONITORING SYSTEM (CEMS)				
	Container for analyser and sample conditioning system with AC	1	X		
	Sample probes and heated sampling line - max 35 meters	4	X		
	Sample conditioning system	4	X		
	Gas analyser - NOx, O2, CO monitoring	4	X		
	CO analyser	4	X		
	Emission reporting & data acquisition system	1	X		
	HC analyser + DAHS system	1	X		
A7	ELECTRICAL SYSTEMS				
A7.1	CONTROL SYSTEM				
A7.1.1	OPERATORS INTERFACE SYSTEM				
	Redundant WOIS server	1	X		
	Operator station for WOIS server	2	X		
	Existing Swois	1	X		
	AGC - Communication	1	X		
	WOIS anywhere	1	X		
	OPC communication enables	1	X		
A7.1.6	CONTROL PANELS				
	Common control panel	1	X		
	Generating set control panel	4	X		
	Local generating set control panel	4	X		
	Auxiliary control panel (mounted on the Engine auxiliary module)	4	X		
	Local generator control panel	4	X		
	Instrumentation for LG engine auxiliary	1	X		
	Maximo integration	1	X		
A7.1.9	CABLES AND ACCESSORIES				
	Control cables	1	X		
A7.2	MEDIUM VOLTAGE SYSTEM				
	Main busbar - 13.8 kV, 2000 A, 40 kA	1	X		
	Generator cubicle - 1200 A, 40 kA	3	X		
	Step-up transformer cubicle - 2000 A, 40 kA	1	X		
	Station auxiliary transformer cubicle - 1200 A, 40 kA	1	X		
	Neutral point cubicle	4	X		
A7.2.1	MEDIUM VOLTAGE CABLES				
	Medium voltage power cables	1	X		
	Medium voltage power cables from BAO903 to new transformer BTT3	1	X		

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	BTTX transformer connection to BAO 902	1			X
A7.3	LOW VOLTAGE SYSTEM				
	Station auxiliary transformer	1	X		
	Low voltage switchboard	1	X		
	Frequency converter for cooling radiators	4	X		
	Frequency converter-engine hall inlet ventilation	8	X		
A7.3.1	LOW VOLTAGE CABLES				
	Low voltage power cables	1	X		
	Power & control cables from fire pump unit	1	X		
A7.4	DC SYSTEM				
	DC system - 110 V	2	X		
	DC system switchyard control	1			X
A7.5	HIGH VOLTAGE SYSTEM				
A7.5.1	STEP-UP TRANSFORMER				
	Step-up transformer - 50/50/50/ MVA, 69/34.5/13.8Kv,60Hz DETC	1	X		
	HV connection to Breaker 325	1			X
A7.6	PLANT ELECTRIFICATION AND EARTHING				
A7.6.1	CABLE RACEWAYS				
	Cable raceways - gas supply & engine hall	1	X		
	Cable race ways to 325 HV breaker	1	X		
	Cable raceways from BAO 902 to transformer BTTX	1	X		
	Cable raceways to fire pump unit	1	X		
A7.6.2	CCTV SYSTEM				
	CCTV	1	X		
	CCTV fix cameras to GRPS, LPG tank, Urea tank	1	X		
A7.6.3	EARTHING ABOVE 0-LEVEL				
	Earthing above 0-level - engine hall & outdoor	1	X		
A7.6.4	FIRE DETECTION SYSTEM				
	Fire detection - day tank area	1	X		
	Fire detection - engine hall	1	X		
	Fire detection - for LPG bulletin tank and GPRS area	1	X		
	Fire detection - power transformer area	1	X		
A7.6.5	GAS DETECTION SYSTEM				
	Gas detection	1	X		
	Gas detection for LPG bulletin tank and GPRS are	1	X		
A7.6.7	LIGHTING AND BUILDING ELECTRIFICATION				
	Lighting and building electrification - day tank area	1	X		
	Lightning and building electrification - outdoor auxiliary area	1	X		

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Lightning and building electrification - Fire water pump station	1			X
	Lightning protection Step up transformer	1	X		
	Lightning protection for exhaust gas stack	1	X		
A7.6.8	LIGHTNING PROTECTION				
	Lightning protection - day tank area	1			X
	Lightning protection - engine hall	1			X
	Lightning protection - outdoor auxiliary area	1			X
	Lightning protection - station auxiliary transformer area	1			X
A8	TOOLS				
	Set engine maintenance tools	1	X		
	Set engine hand tools	1	X		
	Set tools for turbocharger	1	X		
B	CIVIL				
B1	CIVIL STRUCTURES AND MATERIAL				
B1.1	ENGINE HALL STRUCTURE				
	Substructures	1			X
	Foundation bolts	1			X
	Superstructures	1			X
	Process ventilation	1	X		
	Cranes	1	X		
B1.3	ELECTRICAL EQUIPMENT BUILDINGS				
B1.3.1	ELECTRICAL EQUIPMENT BUILDING OR CONTROL BUILDING				
	Foundation bolts	1			X
	Substructures	1			X
B1.5	ANCILLARY BUILDINGS AND STRUCTURES				
B1.5.1	FIRE FIGHTING CONTAINER / PUMP HOUSE				
	Foundation bolts	1			X
B1.5.2	OIL WASTE HANDLING FACILITIES				
	Substructures	1			X
B1.6	GAS SUPPLY STRUCTURES				
	Foundation bolts	1			
B1.7	FUEL AND OIL UNLOADING STATION				
	Foundation bolts	1			X
B1.9	DAY TANK STRUCTURES				
	Substructures	1		X	
	Slab and wall	1		X	

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Foundation LPG Storage	1		X	
	Piling LPG Storage	1		X	
B1.10	OUTDOOR AUXILIARY STRUCTURES				
B1.10.2	NOX AND CO CONTROL SYSTEM				
	Foundation bolts	1	X		
	Substructures	1	X	X	
	Superstructures	1	X		
B1.10.5	EXHAUST GAS DUCT SUPPORTS				
	Substructures	1		X	
	Foundation bolts	1	X	X	
	Superstructures	1	X	X	
B1.10.6	EXHAUST GAS STACK				
	Substructures	1		X	
	Foundation bolts	1	X	X	
	Superstructures	1	X	X	
B1.10.7	COOLING SYSTEM				
	Substructures	1		X	
	Foundation bolts	1	X	X	
	Superstructures	1	X	X	
B1.13	POWER TRANSFORMER STRUCTURES				
B1.13.1	POWER TRANSFORMERS				
	Step up transformer Substructures	1		X	
	Step up transformer Superstructures	1	X	X	
B1.14	HIGH VOLTAGE SWITCHYARD STRUCTURES				
B1.14.1	HIGH VOLTAGE SWITCHYARD				
	Foundation bolts	1			
B1.16	PLATFORMS, SHELTERS AND OTHER STRUCTURES				
	Substructures - pipe route between day tank area and engine hall	1			X
B2	PRE-CONSTRUCTION WORKS				
	Soil investigation	1		X	
	Topographical survey	1		X	
B3	SITE WORKS				
B3.1	EXISTING STRUCTURES AND DEMOLITION				
	Demolition of existing structures	1			X
	Removal/relocating of existing cables, pipes	1			X
B3.2	SITE PREPARATION				
	Site Clearing	1			X
	Removal of contaminated material	1			X

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Top soil removal	1			X
	Site levelling - cutting and filling	1			X
	Site excavation	1		X	
	Site blasting (if needed)	1			X
	Site filling	1	X	X	
	Soil investigation	1	X		
	Topographical Survey	1	X		
	Soil improvement	1			X
B3.3	UNDERGROUND NETWORK				
	Drainage system	1		X	
	Earthing network	1		X	
B3.4	LANDSCAPING				
	Landscaping	1			X
B3.5	PAVING AND SURFACING				
	Access road	1			X
	Gravel areas	1		X	
	site asphalt	1		X	
B3.7	SHELTERS AND OTHER STRUCTURES				
	All necessary platforms and shelters for new equipment and structures	1	X		
	Fire pump station completion	1			X
	Urea tank foundations	1		X	
	Urea pipeline foundations	1		X	
	Urea Tank Superstructures	1		X	
C	ENGINEERING				
C1	ENGINEERING MANAGEMENT				
	Engineering management of Wärtsilä engineering scope	1	X		
C2	GENERAL				
	LG engine engineering	1	X		
	Engineering management	1	X		
	Study	1	X		
	Engineering for additional scope	1	X		
C2.1	EX HAZARDOUS AREA LAYOUTS				
	EX Hazardous area layout design	1	X		
	Hazop study for Wapa-2	1	X		
C2.2	FIRE PROTECTION BASIC				
	Fire protection basic design	1	X		
C2.4	MASTER LAYOUTS				

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Master layouts	1	X		
C2.5	SAFETY LAYOUTS AND DOCUMENTATION				
	Safety layouts	1	X		
	Safety sign layout and material list	1	X		
C3	MECHANICAL AND PROCESS ENGINEERING OF ITEMS SUPPLIED BY WÄRTSILÄ				
C3.1	BASIC ENGINEERING				
	Engine generator set	1	X		
	Auxiliary modules	1	X		
	Fuel system	1	X		
	Lubricating oil system	1	X		
	Compressed air system	1	X		
	Cooling system	1	X		
	Intake air system	1	X		
	Exhaust system	1	X		
	Oily water system	1	X		
	Fire protection system	1	X		
	Pipe supports and crossovers	1	X		
C3.2	DETAILED ENGINEERING				
	Engine generator set	1	X		
	Auxiliary modules	1	X		
	Fuel system	1	X		
	Lubricating oil system	1	X		
	Compressed air system	1	X		
	Cooling system	1	X		
	Intake air system	1	X		
	Exhaust system	1	X		
	Oily water system	1	X		
	Fire protection system	1	X		
	Pipe supports and crossovers	1	X		
C4	ELECTRICAL AND AUTOMATION ENGINEERING OF ITEMS SUPPLIED BY WÄRTSILÄ				
C4.1	BASIC ENGINEERING				
	High voltage system	1			X
	Medium voltage system	1	X		
	Low voltage system	1	X		
	Direct current (DC) system	1	X		
	Control system	1	X		
	Plant electrification	1	X		
C4.2	DETAILED ENGINEERING				

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	High voltage system	1			X
	Medium voltage system	1	X		
	Low voltage system	1	X		
	Direct current (DC) system	1	X		
	Control system	1	X		
	Plant electrification	1	X		
C5	CIVIL DETAILED ENGINEERING				
	Architectural drawings	1	X		
	Earthworks and siteworks engineering	1	X		
	Foundation engineering	1	X		
	Frames engineering	1	X		
	Building engineering - walls, roof, doors and windows	1	X		
	Process ventilation engineering	1	X		
	Heating, comfort ventilation and air conditioning engineering	1	X		
	Plumbing and sanitary installations engineering	1	X		
	Cranes engineering	1	X		
C7	DOCUMENTATION				
C7.1	INSTALLATION AND COMMISSIONING DOCUMENTS				
	Installation documentation	1	X		
	Site Quality Assurance Documentation set	1	X		
C7.3	MANUALS FOR COMMERCIAL OPERATION				
	Operation and maintenance manuals on digital media	1	X		
	Operation and maintenance manuals as hard copy	1	X		
D	TRANSPORTATION OF ITEMS SUPPLIED BY WÄRTSILÄ (DAP, ST THOMAS SITE)				
D1	MATERIAL AND SERVICES FOR LOGISTICS				
	Packing and marking of equipment as per Wärtsilä requirements	1	X		
	Arranging of export license or other export authorisation (if needed)	1	X		
	Export clearance of goods at the port of loading nominated by Wärtsilä	1	X		
	Notification to buyer of time and place of delivery of equipment	1	X		
D2	COLLECTION TRANSPORT AND LOADING PORT OPERATIONS				
	Loading of equipment at place of manufacturing	1	X		
	Transportation of equipment from place of manufacturing to port of loading nominated by Wärtsilä	1		X	

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Transport insurance from place of manufacturing to port of loading nominated by Wärtsilä	1	X		
	Unloading of equipment at port of loading nominated by Wärtsilä	1	X		
	Unloading of engine/genset on ground or on stools and beams at port of loading nominated by Wärtsilä	1	X		
	Shifting of equipment to warehouse/open storage/container yard	1	X		
	Warehousing at port of loading nominated by Wärtsilä (up to contractual delivery date)	1	X		
	Containerizing of loose non out of gauge cargo at port of loading nominated by Wärtsilä to the extent reasonable	1		X	
	Shifting of equipment from warehouse to alongside vessel	1	X		
	Onshore stevedoring cost at port of loading nominated by Wärtsilä	1	X		
	Hooking on charges for equipment when delivered alongside vessel at port of loading nominated by Wärtsilä	1	X		
	Loading of equipment on board vessel or any other transport vehicle	1		X	
	Unhooking charges for equipment loaded on board vessel or any other transport vehicle	1	X		
	Additional pre FOB -Phase 2 material	1		X	
	Lashing, securing, dunnage and welding on board vessel or any other transport vehicle	1	X		
D3	MAIN TRANSPORT AND UNLOADING PORT OPERATIONS				
	Nomination of vessel or other mean of transport	1	X		
	Engaging and instructing freight forwarder	1	X		
	Arranging of bill of lading	1	X		
	Preparation of origin country documents required for destination customs clearance	1	X		
	Transportation of equipment from port of loading to port of destination (offloading quay nominated by Wärtsilä)	1		X	
	Transport insurance from port of loading to port of destination (offloading quay nominated by Wärtsilä)	1	X		
	Discharging of equipment from vessel or any other transport vehicle at port of destination (offloading quay nominated by Wärtsilä)	1	X		
	Unhooking charges for equipment discharged from vessel or any other transport vehicle	1	X		
	Onshore stevedoring cost at port of destination (offloading quay nominated by Wärtsilä)	1	X		
	Shifting of equipment from alongside vessel to warehouse/open storage/container yard inside the	1		X	

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	port of destination (offloading quay nominated by Wärtsilä)				
	Shifting of containers delivered by liner vessels to container yard at port of destination	1	X		
	Unloading of equipment at warehouse/open storage/container yard at port of destination	1		X	
	Additional main transp. for phase2 mat	1		X	
	Wharfage	1			X
	Arrange import license or import permit (if required)	1			X
	Import of goods	1			X
	Import taxes and duties (if required)	1			X
D4	SITE TRANSPORT				
	Transport route preparation (if required)	1			X
	Transport permit assistance	1			X
	Loading of equipment on truck at warehouse	1		X	
	Transportation of equipment from port of destination to Named Place of Destination	1		X	
	Transport insurance from port of destination to Named Place of Destination	1	X		
	Additional transportation for NOx and VOC	1		X	
	Equipment at Named Place of Destination for discharging cargo	1	X		
	Unloading of equipment at Named Place of Destination	1		X	
	Unloading and final positioning of the EG-sets/engines/generators	1	X		
	Temporary warehousing in country of destination	1	X		
	Placing, compaction, and removal of fill material	1		X	
	Customs bonds	1			X
	Official charges, taxes, dues related to cargo in transit through several countries (if required)	1			X
E	TAXES, DUTIES, PERMITS AND INSURANCE				
E1	TAXES AND DUTIES				
	Sales / GRT tax and local taxes	1		X	
	Construction labour tax	1		X	
	Other taxes / duties (if required)	1			X
E2	PERMITS				
	Local business permit	1		X	
	Construction permitting, approvals, etcetera	1			X
	Building permit	1			X
	Water permit	1			X
	Environmental permit	1			X

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Permitting procedures	1			X
	Local fees for doing construction	1			X
	Other permits (if required)	1			X
E3	INSURANCE				
	General liability and product liability insurance	1	X		
	Construction and erection all risk insurance	1	X		
	Workers' compensation and employer's liability insurance for Wärtsilä personnel	1	X		
	Workers' compensation and employer's liability insurance for Customer personnel	1			X
F	PROJECT MANAGEMENT SERVICES				
F1	PROJECT MANAGEMENT				
F1.1	PROJECT EXECUTION PLAN				
	Execution plan for power plant project	1			X
	Execution plan for Wärtsilä supplied equipment and services	1	X		
F1.3	PROJECT TIME MANAGEMENT				
	Time management	1	X		
F1.4	PROJECT COMMUNICATION MANAGEMENT				
	Project execution plan	1	X		
	Project kick off meeting with Customer	1	X		
	Monthly report	1	X		
F1.5	PROJECT QUALITY MANAGEMENT				
	Project quality management plan	1	X		
	Inspection and test plan	1	X		
	Site quality plan	1	X		
F1.6	TRAVEL, ACCOMMODATION AND LOCAL TRANSPORTATION				
	Travel to/from site for Wärtsilä personnel	1	X		
	Accommodation for Wärtsilä personnel	1	X		
	Local transport for Wärtsilä personnel	1	X		
F2	PROCUREMENT MANAGEMENT				
	Procurement management [items and work under the responsibility of Wärtsilä]	1	X		
F2.1	WORKSHOP TEST				
	Engine test according to standard programme with LFO	4	X		
	Demonstration test of 6L32LG with LPG	1	X		
F2.2	CUSTOMER WITNESS WORKSHOP TEST				
	Allowance	7			X

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Travel	1			X
	Accommodation	1			X
	Local transportation	1			X
F3	DOCUMENT CONTROL				
	Document control [items and work under the responsibility of Wärtsilä]	1	X		
G	CONSTRUCTION MANAGEMENT				
G1	SITE ORGANISING AND RESOURCING				
	Site management [items and work under the responsibility of Wärtsilä]	1		X	
	Construction/site management team	1		X	
	Customer site representative	1			X
	Customer site representative	1			X
	Wärtsilä and Wärtsilä's subcontractors personnel work permits	1		X	
	Assistance and sponsoring for work permitting	1			X
	Additional Independent engineer	1			X
G2	HEALTH, SAFETY, ENVIRONMENT (HSE) AND SECURITY MANAGEMENT				
	Health, safety and environment plan	1		X	
	Site safety management and HSE plan implementation	1		X	
	HSE reporting and corrective actions	1		X	
	Emergency action plan	1		X	
	Worksite personnel induction and training for site HSE management system	1		X	
	Site security plan	1			X
	Site security plan implementation	1		X	X
	Security arrangement	1			X
G3	CONSTRUCTION PLANNING				
	Construction planning	1		X	
	Construction management plan	1		X	
	Site manning plan	1		X	
G4	SUBCONTRACTING				
	Subcontractors pre-assessments	1		X	
	Subcontracting planning	1		X	
	Preparing bidding documents	1		X	
	Bid evaluation	1		X	
	Subcontract negotiations and finalisation	1		X	
	Subcontracts administration	1		X	

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
G5	SUPERVISING AND STEERING THE CONSTRUCTION WORKS				
	Subcontractors management and steering	1		X	
	Construction works sequence and prioritisation	1		X	
	Daily operational planning during construction	1		X	
G6	COMMUNICATION AT SITE				
	Coordination and steering the works between different professional disciplines and different stakeholders	1		X	
	Site meetings schedule	1		X	
	Site meeting chairing and minutes	1		X	
	DCM365 - online collaboration platform for site information and document handling	1		X	
G7	SITE MATERIALS MANAGEMENT				
	Site logistics and site material tracking and management	1		X	
	Logwis, ICT (Information and communications technology) system for site logistics and site material management	1		X	
	Site storage plan	1		X	
G8	SITE TIME MANAGEMENT, CONTROLS AND PROGRESS REPORTING				
	Time schedule covering construction activities	1		X	
	Progress follow-up, progress S-curves	1		X	
	Weekly look-ahead schedules	1		X	
	Schedule control and weekly updates	1		X	
	Construction progress reports	1		X	
G9	SITE QUALITY MANAGEMENT				
	Organising quality assurance/quality control on site	1		X	
	Perform quality control, inspections and tests on-site as per SQP	1		X	
	Site quality assurance documentation	1		X	
H	TEMPORARY INSTALLATION AND ARRANGEMENTS				
H1	ROADS AND WORKING AREA				
	Temporary access road to site	1			X
	Lay down area provide	1			X
H2	UTILITIES				
	Internet connection to site	1	X		
	Internet consumption during construction	1		X	
	Illumination during construction	1	X		
	Electricity consumption during construction	1			X

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
	Water consumption during construction	1			X
	Sewage during construction	1	X		
	Illumination during construction	1	X		
	Parking places during construction	1	X		
	Construction equipment and tools	1		X	
	Fuel supply for construction equipment usage	1		X	
H3	SECURITY				
	Security of Wärtsilä supplied equipment	1			X
	Security for personnel transport between site and accommodation	1	X		
H4	HEALTH SAFETY AND ENVIRONMENT				
	Fire protection during construction and commissioning work on the site	1		X	
	Medical evacuation plans of seriously injured persons	1		X	
	Chemical storage	1		X	
	Chemical storage	1	X		
	Sanitary	1		X	
	Hygiene and safe canteen and food preparation (when on-site canteen)	1	X		
	Work permitting at site	1		X	
	Locking and tagging procedures	1		X	
	Dust control	1		X	
	Waste material handling	1		X	
	Dust control	1	X		
	Waste material handling	1	X		
H5	DEMOBILIZATION				
	Removal of temporary facilities	1		X	
	Cleaning of areas used by Wärtsilä	1		X	
	Excess imported material	1	X		
I	LOCAL SUPPLY AND INSTALLATION				
I1	INSTALLATION OF MECHANICAL EQUIPMENT				
	Installation of mechanical equipment supplied by Wärtsilä	1		X	
	Installation of mechanical equipment supplied by Customer	1			X
I2	INSTALLATION OF ELECTRICAL EQUIPMENT				
	Installation of electrical equipment supplied by Wärtsilä	1		X	
	Installation of electrical equipment supplied by Customer	1			X

Section	Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
I3	INSTALLATION OF CIVIL EQUIPMENT				
	Installation of civil equipment supplied by Wärtsilä	1		X	
	Installation of civil equipment supplied by Customer	1			X
J	COMMISSIONING AND COMMISSIONING MANAGEMENT				
J1	COMMISSIONING				
J1.2	COMMISSIONING SITE PERSONNEL				
	50 hrs maintenance	1	X		
J1.3	INSTALLATION QUALITY ASSURANCE (PRE-COMMISSIONING)				
	Installation quality assurance (pre-commissioning)	1	X		
J1.4	FUNCTIONAL TEST				
	Functional test	1	X		
J1.5	PERFORMANCE TEST				
	Engine test according to Wärtsilä programme with LPG	4	X		
	Control system test	1	X		
	Generator unit test	1	X		
	Switchgear test LV & MV	1	X		
	Stack testing with CEMS	1	X		
	First filling UREA tank 2 x 250m3	1			X
	Comm. of protection relays	1	X		
J1.8	TEST EQUIPMENT				
	Test equipment	1	X		
J2	COMMISSIONING MANAGEMENT				
	Commissioning planning	1	X		
	Commissioning organization and resourcing	1	X		
	Health, Safety and Environment during commissioning	1	X		
	Commissioning coordination and meetings	1	X		
	Commissioning time management, controls and progress reporting	1	X		
	Commissioning and performance test documentation	1	X		
J3	INITIAL FILLINGS				
	Initial fillings of lubricating oil	1	X		
	Initial chemicals for water treatment	1	X		
	Initial fillings of NOx reducing agent	1			X
	Initial fillings fresh engine water	1	X		
	Initial fillings of CEMS calibration gas	1			X
J4	LOAD BANKS AND FIRST SERVICE				

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	Load banks for testing purposes	1			X
	First running in service (including running in filter change)	1			X
K	TRAINING				
K1	TRAINING AT WÄRTSILÄ FACILITY				
	Engine operation and practical training course	1	X		
	Power plant introduction course	1	X		
	Power plant electrification course	1	X		
	Travel - Airfare	1	X		
	Travel - Board and lodging	1	X		
	Travel - Local transportation	1	X		
K2	TRAINING AT SITE				
	Power plant introduction on site	1	X		
	Power plant operation and maintenance course on site	1	X		
	Power plant electrification course on site	1			X