

## **Appendix 2B**

### **Scope of supply list**

**Project Name:**  
WAPA 2 - BESS

**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
<b>A POWER GENERATION EQUIPMENT</b>				
<b>A1 ENERGY STORAGE EQUIPMENT</b>				
<b>A1.1 BATTERY SYSTEM</b>				
Battery racks with modules and battery management system	64	X		
GridSolv battery enclosure	4	X		
Impact of the new building code ( IBC 2018 USVI) requirements (container structure, fastening & anchoring to foundations, etc.)	1	X		
<b>A1.2 DC COLLECTION SYSTEM</b>				
DC combiner system - including disconnect switch, over current protection, busbars	1	X		
<b>A1.2.1 DC COLLECTION CABLES</b>				
DC collection cables - battery racks to combiner box(es)	1	X		
DC collection cables - DC combiner box(es) to inverters	1	X		
<b>A1.3 POWER CONVERSION SYSTEM</b>				
Medium voltage block - inverter and transformer	4	X		
Black Start capability software in inverters	2	X		
<b>A2 ELECTRICAL SYSTEMS</b>				
<b>A2.1 CONTROL SYSTEM</b>				
CABLES AND ACCESSORIES				
Control cables - energy storage system	1	X		
<b>A2.1.1 ENERGY STORAGE CONTROL SYSTEM</b>				
GEMS software	1	X		
GEMS hardware	1	X		
Modification to existing automation system (WOIS)	1	X		
<b>A2.2 MEDIUM VOLTAGE SYSTEM</b>				
Main busbar	1	X		
Incoming feeder cubicle	1	X		
Outgoing feeder cubicle	1	X		
Station auxiliary transformer cubicle	1	X		
<b>A2.2.1 MEDIUM VOLTAGE CABLES</b>				
Medium voltage power cables - inverter transformer to switchgear	1	X		
Medium voltage power cables - switchgear to point of interconnection (Transformer BTT01, BTT02)	1	X		
Medium voltage power cables - station auxiliary transformer area	1	X		
<b>A2.3 LOW VOLTAGE SYSTEM</b>				

Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
Station auxiliary transformer	1	X		
Low voltage switchboard	1	X		
UPS and distribution of control voltage for inverter black start capability	1	X		
<b>A2.3.1 LOW VOLTAGE CABLES</b>				
Low voltage power cables	1	X		
<b>A2.4 DC SYSTEM</b>				
DC system - 125 V	1	X		
<b>A2.6 PLANT ELECTRIFICATION AND EARTHING</b>				
<b>A2.6.1 CABLE RACEWAYS</b>				
Cable raceways - switchgear to point of interconnection (Transformer BTT01, BTT02)	1	X		
<b>A2.6.2 CCTV</b>				
CCTV fix cameras to BESS site area	1	X		
<b>A2.6.3 EARTHING ABOVE 0-LEVEL</b>				
Earthing above 0-level	1	X		
<b>A2.6.6 LIGHTING AND BUILDING ELECTRIFICATION</b>				
Lighting and building electrification - energy storage internal	1	X		
Lighting and building electrification - energy storage external	1	X		
<b>B CIVIL</b>				
<b>B1 CIVIL STRUCTURES AND MATERIAL</b>				
<b>B1.1 ELECTRICAL EQUIPMENT BUILDINGS</b>				
<b>B1.1.3 ENERGY STORAGE CONTAINER</b>				
Piling	1		X	
Substructures	1		X	
Superstructures	1	X		
<b>B1.1.4 INVERTER FOR ENERGY STORAGE</b>				
Piling	1		X	
Substructures	1		X	
<b>B1.2 STATION AUXILIARY TRANSFORMER STRUCTURES</b>				
<b>B1.2.1 STATION TRANSFORMER FOR ENERGY STORAGE</b>				
Piling	1		X	
Substructures	1		X	
Superstructures	1	X		
<b>B1.3 MEDIUM VOLTAGE SWITCHGEAR STRUCTURES</b>				
<b>B1.3.1 MEDIUM VOLTAGE SWITCHGEAR FOR ENERGY STORAGE</b>				
Piling	1		X	
Substructures	1		X	

Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
Superstructures	1	X		
<b>B2 PRE-PHASE WORKS</b>				
Soil investigation for energy storage	1		X	
Topographical survey for energy storage	1		X	
<b>B3 SITE WORKS</b>				
<b>B3.1 EXISTING STRUCTURES AND DEMOLITION</b>				
Demolition of existing structures for energy storage	1			X
Removal/relocating of existing cables, pipes for energy storage	1			X
<b>B3.2 SITE PREPARATION</b>				
Site clearing for energy storage	1			X
Removal of contaminated material for energy storage	1			X
Top soil removal for energy storage	1		X	
Site levelling - cutting and filling for energy storage	1		X	
Site excavation for energy storage	1		X	
Site blasting for energy storage (Blasting is not considered and will be charged based on actual cost)	1		X	
Piling (soil improvement) (Estimated cost for piling, same soil conditions as in engine site considered)	1		X	
Site filling for battery storage	1		X	
<b>B3.3 UNDERGROUND NETWORK</b>				
Drainage system for energy storage	1		X	
Underground conduits, cable ditches and lighting pole foundations for energy storage	1		X	
Earthing network for energy storage	1		X	
<b>B3.5 PAVING AND SURFACING</b>				
Roads and parking areas for energy storage (Site is too small to include roads and parking)	1		X	
Gravel areas for energy storage	1		X	
<b>B3.6 SITE ACCESSORIES</b>				
Fence for energy storage	1		X	
<b>C ENGINEERING</b>				
<b>C1 ENGINEERING MANAGEMENT</b>				
Engineering management of Wärtsilä engineering scope	1	X		
Labor/union agreements and payments for energy storage	1	X		
<b>C2 ELECTRICAL AND AUTOMATION ENGINEERING OF ITEMS SUPPLIED BY WÄRTSILÄ</b>				
Electrical and automation engineering for energy storage	1	X		
<b>C3 CIVIL DETAILED ENGINEERING</b>				
Piling engineering	1	X		

Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
Earthworks and siteworks engineering for energy storage	1	X		
Foundation engineering for energy storage	1	X		
Frames engineering for energy storage	1	X		
Heating, comfort ventilation and air conditioning engineering for energy storage	1	X		
Fire protection system for energy storage	1	X		
<b>C4 DOCUMENTATION</b>				
<b>C4.1 INSTALLATION AND COMMISSIONING DOCUMENTS</b>				
Installation documentation	1	X		
Site Quality Assurance Documentation set	1	X		
Commissioning documents	1	X		
<b>C4.2 ENGINEERING APPROVAL DOCUMENTS</b>				
PE stamping of single line diagrams	1	X		
PE stamping of detailed electrical engineering and interconnections	1	X		
PE stamping of detailed structural engineering	1	X		
PE stamping of detail civil engineering	1	X		
<b>C4.3 MANUALS FOR COMMERCIAL OPERATION</b>				
Operation and maintenance manuals on digital media - energy storage	1	X		
Operation and maintenance manuals as hard copy - energy storage	1	X		
<b>D TRANSPORTATION OF ITEMS SUPPLIED BY WÄRTSILÄ (DAP, ST. THOMAS SITE)</b>				
<b>D1 MATERIAL AND SERVICES FOR LOGISTICS</b>				
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		
<b>D2 COLLECTION TRANSPORT AND LOADING PORT OPERATIONS</b>				
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		
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		
Shifting of equipment to warehouse/open storage/container yard	1	X		

Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
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		
Lashing, securing, dunnage and welding on board vessel or any other transport vehicle	1	X		
<b>D3 MAIN TRANSPORT AND UNLOADING PORT OPERATIONS</b>				
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 port of destination (offloading quay nominated by Wärtsilä)	1	X		
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		
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
<b>D4 SITE TRANSPORT</b>				
Transport route preparation (if required)	1			X
Transport permit assistance	1			X

Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
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		
Equipment at Named Place of Destination for discharging cargo	1	X		
Unloading of equipment at Named Place of Destination	1	X		
Temporary warehousing in country of destination	1	X		
Customs bonds	1			X
Official charges, taxes, dues related to cargo in transit through several countries (if required)	1			X
<b>E TAXES, DUTIES, PERMITS AND INSURANCE</b>				
<b>E1 TAXES AND DUTIES</b>				
Sales / VAT tax and local taxes	1		X	
Construction labour tax (BESS)	1		X	
Other taxes / duties (if required)	1			X
<b>E2 PERMITS</b>				
Local business permit	1			X
Construction permitting, approvals, stamps, etcetera	1			X
Building permit	1			X
Water permit	1			X
Environmental permit	1			X
Permitting procedures	1			X
Local fees for doing construction	1			X
Other permits (if required)	1			X
<b>E3 INSURANCE</b>				
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
<b>F PROJECT MANAGEMENT SERVICES</b>				
<b>F1 PROJECT MANAGEMENT FOR ENERGY STORAGE</b>				
Project management for work under Wärtsilä's responsibility	1	X		
<b>G CONSTRUCTION MANAGEMENT</b>				
<b>G1 SITE ORGANISING AND RESOURCING</b>				

Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
Site management [items and work under the responsibility of Wärtsilä]	1		X	
<b>G2 HEALTH, SAFETY, ENVIRONMENT (HSE) AND SECURITY MANAGEMENT</b>				
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/security arrangements	1		X	
<b>H TEMPORARY INSTALLATION AND ARRANGEMENTS</b>				
<b>H1 ROADS AND WORKING AREA</b>				
Temporary access road to site for energy storage	1		X	
Temporary roads at site for energy storage	1		X	
Preparing of working areas for energy storage	1		X	
Lay down area provide	1			X
Lay down area - preparation for energy storage	1		X	
<b>H2 UTILITIES</b>				
Site office including furniture for Wärtsilä personnel for energy storage	1		X	
Site office for customer personnel for energy storage	1			X
Internet connection to site	1			X
Internet consumption during construction	1		X	
Electricity source and hook-up for energy storage	1			X
Electricity consumption during construction	1		X	
Water source and hook-up for energy storage	1			X
Water consumption during construction	1		X	
Sewage during construction for energy storage	1		X	
Illumination during construction for energy storage	1		X	
Parking places during construction for energy storage	1		X	
Workers social facility	1		X	
Workshop areas	1		X	
Construction equipment and tools	1		X	
Fuel supply for construction equipment usage	1		X	
<b>H3 SECURITY</b>				
Security of Wärtsilä supplied equipment	1		X	
Temporary fencing during construction for energy storage	1		X	



Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
Security for personnel transport between site and accommodation	1		X	
<b>H4 HEALTH SAFETY AND ENVIRONMENT</b>				
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	
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	
<b>H5 DEMOBILIZATION</b>				
Removal of temporary facilities	1		X	
Cleaning of areas used by Wärtsilä	1		X	
Excess imported material	1		X	
<b>I LOCAL SUPPLY AND INSTALLATION</b>				
<b>I2 INSTALLATION OF ELECTRICAL EQUIPMENT</b>				
Installation of electrical equipment supplied by Wärtsilä	1		X	
Installation of electrical equipment supplied by Customer	1			X
<b>I3 INSTALLATION OF CIVIL EQUIPMENT</b>				
Installation of civil equipment supplied by Wärtsilä	1		X	
Installation of civil equipment supplied by Customer	1			X
<b>J COMMISSIONING AND COMMISSIONING MANAGEMENT</b>				
<b>J2 COMMISSIONING MANAGEMENT</b>				
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		
<b>J3 LOAD BANKS AND FIRST SERVICE</b>				
Electricity supply and load for testing purposes	1			X
<b>K TRAINING</b>				
<b>K1 TRAINING AT SITE</b>				

Section Description	QTY	Responsibility of Wärtsilä	Responsibility of Wärtsilä Local	Responsibility of USVI Water and Power Authority
Energy storage operation course	1	X		