Ministerio de Educación y Cultura

EC/ 209

MINISTERIO DE EDUCACIÓN Y CULTURA

MINISTERIO DE RELACIONES EXTERIORES

MINISTERIO DE AMBIENTE

2021-11-0001-2754 Montevideo, 07 JUN 2022

VISTO: el Memorando de Entendimiento celebrado entre el Ministerio de Ecología y Medio Ambiente de la República Popular China y el Ministerio de Educación y Cultura de la República Oriental del Uruguay, sobre la Provisión de Bienes al amparo de la cooperación sur-sur para abordar el cambio climático;----------

RESULTANDO: I) que por dicho Memorando el Ministerio de Ecología y Medio Ambiente de la República Popular China acuerda donarle al Ministerio de Educación y Cultura de la República Oriental del Uruguay un sistema de aplicación móvil de recepción y procesamiento de datos meteorológicos satelitales integrados multisatélite, cuyas especificaciones surgen del Anexo del Memorando;----------

II) que la referida donación tiene como fin ayudar a la República Oriental del Uruguay a mejorar su capacidad de abordar el cambio climático;----------

III) que en tal sentido y de acuerdo a los fines de la donación, Presidencia de la República gestionó ante el Ministerio de Economía y Finanzas la exoneración de recargos y demás gravámenes para la importación del material donado;----

IV) que por la Resolución N° 002741, de 15 de setiembre de 2021, dictada por el Director General de Secretaría del Ministerio de Economía y Finanzas en ejercicio de atribuciones subdelegadas, se declaró que los bienes donados a importar por Presidencia de la República, se encuentran incluidos en el régimen de inmunidad impositiva referido en el artículo 463 de la Ley N° 16.226, de 29 de octubre de 1991;----------

CONSIDERANDO: I) que procede aceptar la donación ofrecida por el Ministerio de Ecología y Medio Ambiente de la República Popular China, de conformidad con lo

2021-2-1-0001223

establecido en el Texto Ordenado de la Contabilidad y Administración Financiera del Estado;----------

II) que, de acuerdo a lo que surge de la factura de proforma, la donación fue avaluada en la suma de USD 3.022.682,17 (dólares estadounidenses tres millones veintidós mil seiscientos ochenta y dos con 17/100);----------

ATENTO: a lo precedentemente expuesto y a lo dispuesto por el artículo 42 del Texto Ordenado de la Contabilidad y Administración Financiera del Estado aprobado por el Decreto N° 150/012, de 11 de mayo de 2012 y demás normas concordantes, complementarias y modificativas;----------

EL PRESIDENTE DE LA REPÚBLICA

R E S U E L V E:

1ro.- Acéptase la donación proveniente del Ministerio de Ecología y Medio Ambiente de la República Popular China, de un sistema de aplicación móvil de recepción y procesamiento de datos meteorológicos satelitales integrados multisatélite, avaluado en la suma de USD 3.022.682,17 (dólares estadounidenses tres millones veintidós mil seiscientos ochenta y dos con 17/100), cuyas especificaciones surgen del Anexo que forma parte integrante de la presente Resolución.----------

2do.- Agradécese a la República Popular China la valiosa donación ofrecida.----------

3ro.- Comuníquese, etc.----------

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Name	Primary Equipment	Quantity	Specification
Antenna Vehicle	X/L dual band antenna	1	1. Antenna diameter: 3.7m-4.5m; 2. Work frequency: 1) X band: 7700MHz~ 8400MHz; 2) L band: 1670MHz~ 1710MHz; 3. G/T: 1) X band: Gt≥24+20lg(f/8.0 GHz)dB/K; 2) L band: Gt≥10+20lg(f/1.7 GHz)dB/K; 4. Tracking accuracy: less than 1/8 half power beam width; 5. Pointing accuracy: less than 0.2°.
	Three axis antenna pedestal	1	
	Antenna feed equipment	1	
	X band polarization switch	1	
	L band polarization switch	1	
	X band LNA	2	
	L band LNA	2	
	Tracking receiver	1	
	X/720 down frequency converter	2	
	L/720 down frequency converter	2	
	720/X up frequency converter	1	
Data receiving and processing shelter vehicle	Demodulator	2	1. Demodulation rate: 0.5~40Mbps; 2. Demodulation mode: BPSK, QPSK,O/SQPSK; 3. Decoding mode: RS, Viterbi, RS and Viterbi decoder; 4. BER: less than 10^{-6}; 5. Bit error characteristics of the demodulator: when the bit error rate varies between 10^{-3}~10^{-6}, the theoretical variation value of the demodulator performance curve is within 2 dB; 6. Recoding rate: 0.5~ 50Mbps; 7. Raw data recording storage capacity: 7 days.
	Modulator	1	
	Raw data recording and moving window display equipment	2	
	Raw data recording and moving window display software	1	
	Station monitor and control equipment	2	
	Station monitor and control software	1	
	Switch	1	
	Time and frequency equipment	1	

	Data Process Workstation	2	1. Data Pre-Process include FY-3D' s MERSI and MWRI, EOS-Terra /Aqua's (MODIS), NOAA18's AVHRR; 2. 15 types of Real time meteorological products, including Cloud Detection, Aerosol Optical Thickness Products , Land Surface Temperature , Atmospheric Precipitable Water Prediction , Snow Cover , Surface Reflection Ratio , Fog Monitoring , Cloud Classification , Cloud Top Temperature, Cloud Fraction , Vegetation Index , Fire Detection , Ground Precipitation Monitoring , Sea Wind , Sea Surface Temperature , Leaf Area Index , Drought Index; 3. Online storage: 30 days data.
	Disk Array	1	
	Server	4	
	Data pre-processing software	1	
	Product generation software	1	
	Data archive and management software	1	
	Production scheduling software	1	
Power supply trailer	UPS (location is to be determined)	1	1. Provide UPS power supply, power supply is no less than 15 minutes; 2. Support city power supply and diesel power supply.
	Diesel generator	1	
	Power control switch	1	

Series No.

Confidentiality Public

Phase Z

Pages 6

Project U-MTGS

Title Civil works Requirements for Meteorological Mobile Ground System

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Form checked by Xue Qing

Approved by

Space Star Technology Co., Ltd.

Content

1 Station Site Requirement

a. U-MTGS necessary space is about 120 m² (10m×12m).

b. No shelters around the 4.5 meters height antenna vehicle. Guarantee the antenna can rotate from 0° to 360° azimuth smoothly. Based on the calculation of 3° capture, there are no more than 9 meters high building and shelters within 100-meter radius.

c. The mobile station should be protected against lightning.

d. There are 6 ground holes in the space which diameter are 3cm and grounding resistance should be less than 10Ω.

e. There is enough flat ground around the foundation to facilitate the parking of vehicle and the installation of antenna. The soil at the bottom of and around the foundation should be compacted fully, and the soil bearing condition is more than 2000kg/m^2.

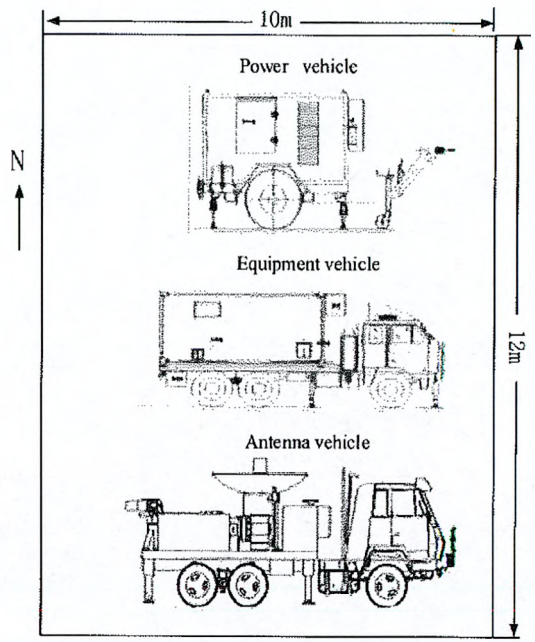

Figure1-1 Layout of three vehicles

2 Power requirement

35kw power supplies shall be provided(at least one way) to ensure ground system power supply:

a. 380V±10%;

b. 50Hz±1Hz;

c. Waveform distortion <5% .

SPD should be installed in power supply distribution cabinets and to be connected with the ground in order to protect against lightning.

The distance between power supply distribution cabinets and power vehicle is less than 50m.

3 Grounding and Lightning Protection

3.1 Lightning Protection (optional)

Independent lightning tower erected: It is required to cover the antenna vehicle , equipment vehicle and power vehicle, as shown in the figure. The height of the lightning rod above the top of the antenna should ensure that the vehicles is at the 45° angle of the lightning rod. The maximum height of vehicles is 5.8m

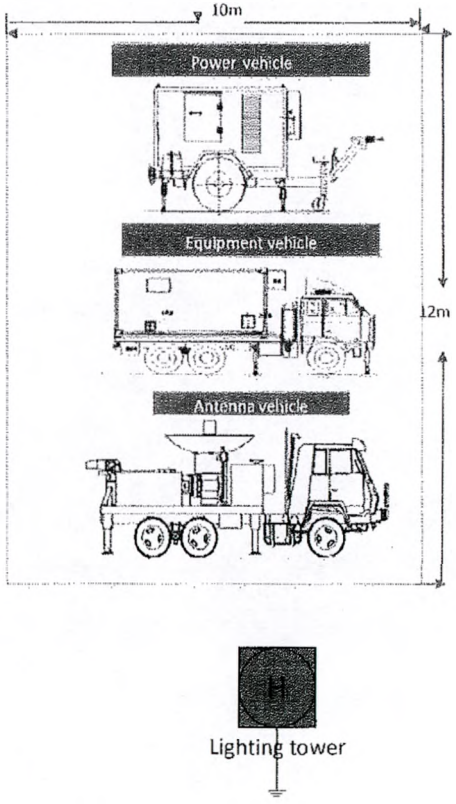

Figure 3-1 Lighting tower (just for reference)

3.2 Grounding

Combine grounding mode is used in this space. The requirements of grounding as follow:

Its grounding

a. The grounding resistance should be less than 10Ω;
b. The ground bus connected with grounding system of lightning-tower (if lightning-tower is building); The connection to the grounding system should have enough strength, and the contact should be reliable.

4 Other requirements

a. A 30 ㎡ spare room is needed for equipments storage.
b. A telephone connecting and the internet network (which installed in the signal box) connecting are required for equipment vehicles, and the distance between signal box and vehicles is less than 30m.
c. When the mobile station works outside, the station will provide the vehicle with diesel oil.
d. When the mobile system works outside, the diesel oil for the vehicles will be provided near the vehicles.

5 To confirm by user

a. The layout、power supply、network and lightning and ground of the space which have be provided;
b. The power supply is one fire, one zero, one ground or three fire, one ground, one zero?