

- Read - 1) Application dt.21.08.2007 from M/s. Nelco Limited holder of TIN 27480253727V.
2) Letters to the applicant of dt.13.12.2007, dt.15.3.2008, dt.15.7.2011, dt.18.8.2011, dt.9.9.2011, dt.8.12.2011, dt.12.12.2011, dt.19.12.2011, dt.2.2.2012, dt.8.2.2012, dt.04.07.2012 & dt.28.09.2012.
3) Communication by the applicant of dt.26.12.2007, dt.7.4.2008, dt.10.3.2009, dt.10.10.2011, dt.3.2.2012 & dt.13.09.2013.

Heard – Shri Nayak, Manager, Accounts attended the hearings on dt.14.02.2012 & dt.16.07.2013.

PROCEEDINGS

(U/s. 56 (1)(e) of the Maharashtra Value Added Tax Act, 2002)

No. DDQ 11/2008/Adm-3/14/ B- 1

Mumbai, date: 18/12/2013

The applicant M/s. Nelco Limited is registered under TIN-27480253727V having head office at Plot No. EL 6, TTC Industrial Area, Electronic Zone, M.I.D.C., Mahape, Navi Mumbai - 400 710. The applicant seeks determination of the rate of tax applicable in the State of Maharashtra on the sale of their product 'UGS (Unattended Ground Sensor)' through invoice no. 490 dt.28.3.2008.

02. **FACTS OF THE CASE**

Nelco is a public limited company incorporated under the Indian Companies Act, 1913. It deals in manufacture and trading of electronic goods, telecommunication services, sale and development of properties. It manufactures and supplies UGS (Unattended Ground Sensor) to the MOD (Ministry of Defence). UGS is an intrusion detection system being used by the MOD for detection of intrusion on the border. The applicant is of the opinion that UGS falls under the category of 'Information Technology products' as per schedule entry 56 as it is covered by excise Heading 8543 which is notified in the notification No.VAT 1505/CR-237/Taxation-1, dt.17.10.2005. It is informed that the applicant has been selling UGS to MOD charging CST @ 4% against form D up to 31.3.2007. From 1.4.2007, the D form has been withdrawn and hence it is requested by the applicant that the VAT rate to be charged on the sale of UGS be determined.

03. **CONTENTION**

A brochure on UGS supplied by the applicant gives the following information :-

UNATTENDED GROUND SENSOR (UGS)

The Unattended Ground Sensor (UGS) system is an intrusion detection system based on the combination of various kinds of sensors. It is an intelligent, discriminating remote sensor system designed to operate in extreme temperature range with low power consumption.

Application Areas

- International border
- Military installation
- Nuclear complexes
- Oil & Gas refineries
- Explosive & ordnance storage complexes
- Archaeological site & cave surveillance
- High security governmental installations
- Oil storage depot
- Airports

- Customs warehouses

System Features:

- Microprocessor based Processor and Transmitter
- Highly Sensitive
- State-of-art design
- Very low false alarm rate
- Easy deployment
- Discrimination between personnel, vehicles and animals
- Simultaneous monitoring of multiple targets
- Remote detection and identification of personnel and vehicles
- Transmitted message may be a digital Manchester code
- Extremely low power consumption
- Designed for operation in extreme weather conditions
- Excellent on-field performance
- Low maintenance

System Components

➤ **Sensors**

Magnetic : Detects disturbances in earth's magnetic field caused by movement of ferrous or magnetically sensitive material through the secured area.

Passive Infra Red Detector : produces the signal when it senses quick change in incidence infrared radiation within its field of view.

Seismic: Buried geophone detects seismic activity at the detector location and generates an electrical signal that is analyzed by the processor to determine specific type of intrusion.

Secotec Sensor :It is a cable based sensor and with its sensitive & state-of-art designed electronics translates the mechanical stress into electrical signals for detection.

Processor/Transmitter: It is a microprocessor based programmable unit that processes information from sensors and transmit to the receiver.

➤ **Receiver/Monitor:** is a portable unit designed to receive, display, print and store messages from the processor/transmitter.

➤ **Repeater:** It is a small, portable battery-powered simplex system designed for use with the processor/transmitter. This device is a digital message format repeater used to extend the operational range of the system by relaying the signal from the transmitter to either a portable or fixed base. Use of one or more repeaters provides unlimited flexibility when deploying the Intrusion Detection System in rough, hilly terrain where line-of-sight is not possible, or when strategic operations require that monitoring be conducted at a location far remote from the secured area.

➤ **Programmer:** It is a handheld unit that allows the user to adjust the parameters of the Processor/transmitter and repeater.

04 HEARING

The case was kept for hearing on 14.02.2012. Shri. Suresh Nayak, Manager Accounts attended on behalf of the applicant. The product is "Unattended Ground Sensors". It is contended by the applicant that the product is covered by excise heading 8543 2090. The applicant sells the product to the Ministry of Defence. The product is used to detect intrusion on the border. It generates and transmits signals on every intrusion in the army control room. The advertisement literature of the product is submitted. It was submitted that the excise heading 8543 is notified

under the Maharashtra Value Added Tax Act under entry C-56. The entry only covers signal generators and its parts. It is the contention of the applicant that the product is a signal generator. The applicant has agreed to provide any additional information if required.

The brochures and information submitted by the applicant were felt inadequate to answer question of fact and therefore, through letter No.DDQ-11/2008/Adm-3/14/B-397 dt.04.07.2012, the applicant was asked to furnish information on two counts, namely,-

- (i) The functions of the impugned product in detail; and
- (ii) The essential differences and similarities between a UGS (Unattended Ground Sensor) and signal Generator and their functioning for general understanding of the issue.

The applicant was duly cautioned about the consequences of failure to respond to the communication. However, the applicant failed to produce the needful information. Hence, in view of natural justice, the applicant was afforded one more opportunity to furnish the requisite information by a reminder letter No.DDQ-11/2008/Adm-3/14/B-563 dt.28.09.2012. However, the applicant failed to respond to the communication.

A re-hearing in the matter was kept on dt.16.07.2013 when Sh. Nayak (Manager-Accounts) attended and submitted thus :

- a. Details of the product are given in their letter dt.07.04.2008.
- b. As regards similarity between 'signal generators' (notification wording) and 'Unattended Ground Sensor' (present product), it is stated that the impugned product generates and transmits signals on every intrusion to the Army Control Board.

It was agreed to give a written submission within 15 days in the matter of the similarity between the notification wording and the impugned product as well as submission regards an alternative schedule entry, if the impugned product doesn't fall within the notification wording. Due to non-receipt of the needful submission, a reminder was issued to the applicant on dt.16.08.2013. The applicant, by letter dt.13.09.2013, has informed that a decision be given on the basis of information submitted earlier in the matter.

05. OBSERVATIONS

The applicant manufactures and supplies UGS (Unattended Ground Sensor) to MOD (Ministry of Defence). Through letter dt.26.12.2007, a photocopy of sale invoice no.607 dt.21.3.2007 was produced, wherein the impugned product has been cleared under excise tariff code no. 85311090. Subsequently through letter dt.07.04.2008, the applicant tendered sale invoice no.490 dt.28.3.2008 wherein the impugned product is shown to be cleared under excise tariff no.85432090. It is the contention of the applicant that the UGS is an intrusion detection system being used by the MOD for detection of intrusion on the border. It generates and transmits signal on every intrusion to the army control room. With the help of the signal received through the

UGS, person sitting in the control room takes necessary action to check intrusion. Hence it is contended that it fits in the schedule entry C-56 of the MVAT Act 2002. The schedule entry C-56 covers those 'Information and technology products' which have been notified by the State Government. The notification is excise based. The schedule entry C56 is reproduced below:-

C-56	IT products as may be notified by the State Government from time to time.	4%	1.4.2005 to 31.3.2010
		5%	1.4.2010 to date

The applicant has contended that his product is covered by Central Excise Tariff Heading 854320 notified for the purpose of the above schedule entry. The heading as per Central Excise Tariff and as under the notification is reproduced below:-

As per the Central Excise Tariff Act:

8543	Electrical machines and apparatus having individual functions, not specified or included elsewhere in this chapter
854320	- <i>Signal generators</i> :
8543 20 10	--- Sweep generators
8543 20 20	--- Impulse generators
8543 20 30	--- Tacho generators
8543 20 90	--- Other

As under the MVAT Act:

8543 20	Signal generators
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It can be seen that though the Heading 8543 is not taken in its entirety for the purposes of the notification, the sub-classification 8543 20 of the heading 8543 is taken in its entirety. It means that the notification covers signal generators falling in Central Excise Tariff Heading (CBTH) 8543 20 10 to 8543 20 90.

I have gone through all the facts of the case and the documents submitted by the applicant. The question before me is whether the product could be termed as a signal generator as notified for the purposes of the entry 85432090. The applicant refers to the product as 'Unattended Ground Sensor' whereas the product notified is 'signal generator'. The description, *prima facie*, does not match. The HSN Notes in respect of the aforesaid heading states thus :

"Signal Generators - These are apparatus for the production of electrical signals, of known wave-form and magnitude, at an assignable frequency (high or low frequency, for example). These include, inter alia : impulse generators, pattern generators, wobblers (sweep generators)."

Thus, it can be seen that signal generators are apparatus for the production of electrical signals. I would now refer to this criteria about 'Electrical signals'. In the impugned product, there is generation of digital message format. It is also seen that the impugned product is a combination of different components which are inter-related and it is their inter-relation which generates the desired output. The applicant itself describes the product as '*an intrusion detection system based on the combination of various kinds of sensors*'. The product discriminates between personnel, vehicles and animals. The message is transmitted by digital Manchester code. It has a very low false alarm rate. As mentioned above, the function of the impugned product is not restricted to production of signals only. It is a combination of sensors, processor/transmitter and

receiver monitors. There are mechanical (as in repeater) and electronic (as in processor, monitor) functions also.

I would also refer to the signal generators under CETH 854320 classified from 85432010 to 85432030 namely - *Sweep generators, Impulse generators & Tacho generators*. A sweep generator is a piece of electronic test equipment similar to, and sometimes included on, a function generator which creates an electrical waveform with a linearly varying frequency and a constant amplitude. *Sweep generators* are commonly used to test the frequency response of electronic filter circuits. An *impulse generator* is an electrical apparatus which produces very short high-voltage or high-current surges. Such devices can be classified into two types: impulse voltage generators and impulse current generators. A *tachometer* or *tachogenerator* is specially designed and constructed for use as measurement devices for shaft speed in mechanical equipment. From the aforesaid description, it can be seen that these signal generators perform individual functions of measuring or testing.

The applicant has informed that the UGS system is an intrusion detection system based on the combination of various kinds of sensors. It is an intelligent remote sensor system designed to operate in extreme temperature range with low power consumption. The application areas are international border, oil storage depot, military installation, airports, custom warehouses, nuclear complexes, oil and gas refineries, high security government installation etc. The product contains a microprocessor based processor and transmitter, a seismic sensor (to detect seismic activity), magnetic sensor (detects disturbances in earth's magnetic field caused by movement of ferrous material), passive infra-red (perceives quick change in infrared radiation), secotec sensor (cable based sensor) etc.

I would have a look at what is generally understood by 'Sensors' and 'Unattended Ground Sensor' :

Sensors

As per the Wikipedia, a sensor (also called detectors) is a device that measures a measurable attribute and converts it into a signal which can be read by an observer or by an instrument.

Dictionary Definition - Sensor is a device that detects (senses) changes in the ambient conditions or in the state of another device or a system, and conveys or records this information in a certain manner.

From the above it is seen that signal is sign or notice perceptible by sight or hearing especially for the purpose of conveying direction or information. It gives order to do something. For e.g. an engine driver can ascertain with the help of signal whether line is clear or not. However sensor is an instrument which reacts to certain physical condition or impression such as heat or light and which is used to provide information, e.g. latest Japanese's vacuum cleaners contains sensors which detects dust and type of floor.

Unattended Ground Sensor

Existing in various sizes and forms, UGS contains several sensor technologies, deployed at the area of operation, detecting, classifying and reporting target information via wireless links to a

remote control center. UGS systems use sensors. UGS systems utilize a combination of detectors, including seismic detectors (geophones), used to identify ground vibration caused by vehicles or pedestrians. Magnetic detectors monitor movement of metal objects such as weapons or vehicles. Acoustic sensors are used to detect targets by specific acoustic signatures (noise of engine, tracks etc) while passive infrared (PIR) sensors detect movements of objects in a narrow field of view. Input from all these detectors is collected by the gateway, processed by its on-board signal processors. When signatures are correlated into verified target detection, an alarm is triggered and transmitted automatically by radio to a central monitoring point in order to alert reaction forces on the suspect area.

Having had a fair idea of what is meant by an UGS, let me have a look at what is meant by 'Signal Generators' :

Signal generators

As per the Wikipedia, Signal generators, also known variously as function generators, RF and microwave signal generators, pitch generators, arbitrary waveform generators, digital pattern generators or frequency generators are electronic devices that generate repeating or non-repeating electronic signals (in either the analog or digital domains). They are generally used in designing, testing, troubleshooting, and repairing electronic or electroacoustic devices; though they often have artistic uses as well.

As per the Encyclopedia Britannica, signal generator is an electronic test instrument that delivers an accurately calibrated signal at frequencies from the audio to the microwave ranges. It is valuable in the development and testing of electronic hardware. The signal generator provides a signal that can be adjusted according to frequency, output voltage, impedance, waveform, and modulation. Signal generators are of five major types: oscillators, which generate sine waves useful in measuring the response of loudspeakers, amplifiers, microphones, transducers, and acoustic systems; standard signal generators, which generate sine waves over a wide range of output power and modulation, used, for example, to test radio receivers and measure gain, bandwidth, and signal-to-noise ratio; frequency synthesizers, which generate highly precise output frequencies over wide ranges; pulse generators, which produce pulsed signals at precise duration at precise frequencies; and random-noise generators, which produce a wideband noise for various types of electronic, mechanical, and psychological testing.

When an engineer, scientist or technician needs a thorough, reliable way to analyze an electronic system, he might reach for a signal generator. It produces an oscillating signal with precisely controlled frequency and amplitude characteristics, and is an indispensable tool for testing different types of audio, video, radio and other types of broadcast equipment.

A signal generator is a common piece of electronic test equipment. It is a convenient source of time-varying electrical signals with known waveform, frequency and amplitude. It offers several waveforms of good quality with accurate and stable frequency. A signal generator has controls to set frequency range, frequency fine tune and amplitude. It will have either a waveform selector switch or have simultaneous outputs for a few different waveforms. The ones most frequently offered are sine, triangle and a rectangular pulse. Some generators will have a rising or falling sawtooth waveform. A digital generator may have very large selections of pre-programmed waveforms. A more sophisticated model has amplitude and frequency modulation, possibly with a built-in modulation oscillator. If it offers modulation, there may be an input for an external modulation signal. One of the main uses of signal generator is to send a signal into a circuit to test it. A technician looks at the signal at different points in the circuit with an oscilloscope, spectrum analyzer or other equipment. If the signal is distorted, attenuated or missing entirely, this will tell her what the circuit is doing. It is used to test systems of equipment, injecting a pure signal into a radio transmitter, for example. Analyzing the received signal can tell a lot about the quality of both transmission and reception. A signal generator can drive mechanical equipment, like a shaker. A shaker is used to vibrate something, like a piece of equipment under test. If the

signal generator drives the shaker with a 20 hertz sine wave and the equipment falls apart, the designers might have to rework it to be sturdier.

From the above it is seen that signal generator is an electronic test instrument which is a tool for testing different types of audio, video, radio and other types of broadcast equipment. On the other hand, the impugned product in question is used for detecting intrusion on the border. We have seen earlier that *Signal Generators are apparatus for the production of electrical signals* whereas the impugned product does more than mere production of signals. It is an intelligent, discriminating remote sensor system designed for intrusion detection. It has a microprocessor based programmable unit that processes information from sensors and transmit to the receiver. It has a Receiver/Monitor which is a portable unit designed to receive, display, print and store messages from the processor/transmitter. It has a Repeater which is a small, portable battery-powered simplex system designed for use with the processor/transmitter and used as a digital message format repeater. Thus, the 'Unattended ground sensor' is distinct from a 'Signal generator' and has a very selective application. The functions of a signal generator and the product in question are very different and cannot be compared.

From all the above discussion, it could be deduced that the product cannot be considered to be falling under the CETH 854320 on many counts. As seen above, the impugned product's functions are not what is commonly attributable to a 'signal generator'. The notification covers 'signal generators' and the impugned product being not a signal generator, the same would not be covered by schedule entry C-56. There is no other schedule entry under which the product can be classified. In absence of any particular entry, the product would fall under the residuary entry E-1 and will be taxable @ 12.5%.

06. In view of the deliberations held above, the following order is passed.

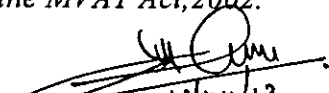
ORDER

[Under Section 56(1)(e) of The Maharashtra Value Added Tax Act, 2002]

No. DDQ 11/2008/Adm-3/14/ B- 1

Mumbai, dt.: 18/12/2013

1. The product 'Unattended Ground Sensors' is not covered by the description 'Signal Generators' as against the Central Excise Tariff Heading 85432090 notified for the purposes of the schedule entry C-56 of the MVAT Act, 2002.
2. The rate of tax in the State of Maharashtra under the provisions of the MVAT Act, 2002 on the impugned product is 12.5% as in the absence of a specific entry, the product gets placed in the residuary entry E-1 of the MVAT Act, 2002.


(DR. NITIN KAREER)
Commissioner of Sales Tax,
Maharashtra State, Mumbai.