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KCDC - East Division
Bellevue



Cascade Engineering Services, Inc.

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**CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION
OF ELECTRONIC SPEED MEASURING DEVICES**

IRLJ RULE 6.6 EFFECTIVE 10/31/2000

I, Charles N. Brown do certify under penalty of perjury under the laws of the State of Washington that the following is true and correct:

I, Charles N. Brown am employed with Cascade Engineering Services, Inc. (CES) Metrology and Electronic Repair Services, as a Senior Metrology Technician, specialized in Speed Measuring Device (SMD) technology, and assigned as co-custodian of SMD records. I have been employed in such a capacity for 32 years. Part of my duties include supervising others in the maintenance and repair of all electronic Doppler and Laser speed measuring devices (SMD's) utilized by the CITY OF BELLEVUE POLICE DEPARTMENT. The CITY OF BELLEVUE POLICE DEPARTMENT uses the SMD(s) listed in the table below.

I maintain the following qualifications with respect to SMD(s): Twelve years military experience in electronics, which included the repair and calibration of airborne and ground radar systems. I have over 15 years experience in the repair and calibration of Doppler and Lidar SMD's. I have successfully completed factory training in the repair and service of Laser Speed Detection systems by LTI, Inc. Graduate of Washington Technical Institute. I have successfully completed courses in the repair and calibration of measuring instruments. I am experienced and competent in the principles and fundamental requirements of calibration from DC to Microwave frequencies.

CES Metrology Laboratory is audited periodically by American Association for Laboratory Accreditation (A2LA) to ensure and maintain our ISO/IEC 17025:2005 accreditation and certification, (No. 2560.01), for technical competence. The CES laboratory is an authorized service center for all makes and models of SMD(s) used by the CITY OF BELLEVUE POLICE DEPARTMENT. Our laboratory maintains manuals specific to these SMD(s), which are available for public inspection upon request. I am personally familiar with those manuals and am personally familiar with the design, construction and operation of each of the SMD(s) listed below. Each of these SMD(s) are so designed and constructed to accurately and reliably employ the Doppler Radar principle or the measurement techniques based on the velocity of light as a constant, as the case may be, in such a manner that each of them will give accurate and reliable measurement of the speed of motor vehicles when used by a trained operator. Each of the SMD's were calibrated and tested under my direction on the Calibration Date(s) indicated in the table below. The unit(s) were serviced to meet or exceed existing performance standards.

The CES laboratory tests all Doppler SMD's used by the CITY OF BELLEVUE POLICE DEPARTMENT at least every two years, as recommended by the manufacturer, as follows: The Vocar HR, handheld Radar certification system, Serial number VHR0510120 is used to calibrate Doppler SMD devices. The Vocar HR is calibrated annually by the manufacturer. The Vocar HR is used to simulate speeds at 5 mph increments from 20 mph to 140 mph to verify accuracy in stationary and moving mode. Measurements are taken of the SMD transmit frequency, antenna/receiver sensitivity and any accompanying tuning forks are also tested for accuracy. All other operational functions of the SMD system are then tested for proper performance.

The Laser SMD's transmit a series of highly focused light wave pulses each time the trigger is pulled and utilizes two laws of physics; time and distance (I.E. 3.5 feet in diameter at 1000 ft). Since the speed of light is a known value, the distance of the target is determined by calculating how long it takes for the signal to travel to the target and back. This series of measurements allows the SMD to calculate the speed of the target by measuring the distance traveled in time (usually less than a second for a veritable display). The displayed speed is accurate to within plus (+) or minus (-) one (1) mile per hour.

The CES laboratory tests all Laser / Lidar SMD(s) used by the CITY OF BELLEVUE POLICE DEPARTMENT, at least every two years, as recommended by the manufacturer, as follows: The Laser Speed Measurement Simulator (LSMS SN: SS000043) is used to simulate a moving target. This is accomplished by detecting the optical output pulses of the laser device and generating artificial return pulses. Different speed values and ranges are simulated by varying the time delays between the input pulses and the return pulses. The LSMS consists of a Digital Delay Generator (DDG), and an optical interface unit (SN: OH000030). The DDG produces precise time delays. The optical interface unit converts the optical energy of the laser instrument into electrical signals which are supplied to the DDG. The optical interface unit also converts the electrical signals received from the DDG into optical energy which is then transmitted to the Lidar. The Lidars output power is tested using an Ophir Nova Display SN. 70228, with a PD300-SH power head, SN. 68814.

Based upon my education, training, experience, and knowledge of the SMD(s) listed below, it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately and reliably employ the Doppler effect in such a manner that it will produce measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator accurate to within plus (+) or minus (-) one (1) mile per hour or, in the case of the Laser/Lidar SMD(s), each of these pieces of equipment is so designed and constructed as to accurately and reliably employ measurement techniques based on the velocity of light in such a manner that it will produce measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator accurate to within plus (+) or minus (-) one (1) mile per hour.

This agency, CITY OF BELLEVUE POLICE DEPARTMENT currently utilizes the following Laser SMD(s):

KUSTOM Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
63014/PL-20881	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/15/2010	24 MONTHS	02/15/2012
63017/PL-20882	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/09/2010	24 MONTHS	02/09/2012
63018/PL-20879	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/09/2010	24 MONTHS	02/09/2012
64113/LP03538	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 03/02/2010	24 MONTHS	03/02/2012
64114/LP03537	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 02/10/2010	24 MONTHS	02/10/2012
64116/LP03535	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 02/10/2010	24 MONTHS	02/10/2012
LP02094	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 02/09/2010	24 MONTHS	02/09/2012
LP02476	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 01/28/2010	24 MONTHS	01/28/2012
LP02547	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 01/28/2010	24 MONTHS	01/28/2012
LP03404	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 02/10/2010	24 MONTHS	02/10/2012
LP03536	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 03/01/2010	24 MONTHS	03/01/2012
LP03807	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 02/09/2010	24 MONTHS	02/09/2012
LP03808	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 02/09/2010	24 MONTHS	02/09/2012
LP03809	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 01/28/2010	24 MONTHS	01/28/2012
LP03810	PRO-LITE +	N/A	N/A	N/A	N/A	N/A 02/09/2010	24 MONTHS	02/09/2012
PL-20880	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/10/2010	24 MONTHS	02/10/2012

LASER TECHNOLOGY Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
UX021632	ULTRA LYTE 20-20	N/A	N/A	N/A	N/A	N/A 01/28/2010	24 MONTHS	01/28/2012

This agency, CITY OF BELLEVUE POLICE DEPARTMENT currently utilizes the following Doppler SMD(s):

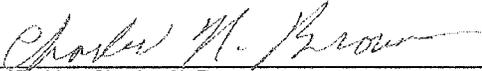
DECATUR Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
05467	GENESIS VP DIREC	N/A	N/A	101885	101710	02/10/2010	24 MONTHS	02/10/2012
05497	GENESIS VP DIREC	N/A	N/A	107281	107190	02/10/2010	24 MONTHS	02/10/2012
07679	GENESIS VP DIREC	N/A	N/A	N/A	N/A	02/10/2010	24 MONTHS	02/10/2012
08609/GHS08609	GENESIS	N/A	N/A	107464	N/A	02/10/2010	24 MONTHS	02/10/2012
1100	GENESIS VP DIREC	N/A	N/A	N/A	N/A	02/10/2010	24 MONTHS	02/10/2012
1670	GENESIS VP DIREC	N/A	N/A	105042	104953	02/10/2010	24 MONTHS	02/10/2012
1673	GENESIS VP DIREC	N/A	N/A	149126	149179	01/28/2010	24 MONTHS	01/28/2012
1677	GENESIS VP DIREC	N/A	N/A	N/A	N/A	02/15/2010	24 MONTHS	02/15/2012
1678	GENESIS VP DIREC	N/A	N/A	204110	204012	03/01/2010	24 MONTHS	03/01/2012
1684	GENESIS VP DIREC	N/A	N/A	93810	93563	02/10/2010	24 MONTHS	02/10/2012
5468	GENESIS VP DIREC	N/A	N/A	170594	170474	02/15/2010	24 MONTHS	02/15/2012
5473	GENESIS VP DIREC	N/A	N/A	N/A	N/A	02/15/2010	24 MONTHS	02/15/2012
5491	GENESIS VP DIREC	N/A	N/A	171145	171039	01/28/2010	24 MONTHS	01/28/2012
5492	GENESIS VP DIREC	N/A	N/A	171049	171167	01/28/2010	24 MONTHS	01/28/2012
5493	GENESIS VP DIREC	N/A	N/A	171129	171053	01/28/2010	24 MONTHS	01/28/2012
5494	GENESIS VP DIREC	N/A	N/A	N/A	N/A	01/28/2010	24 MONTHS	01/28/2012
5496	GENESIS VP DIREC	N/A	N/A	N/A	N/A	01/28/2010	24 MONTHS	01/28/2012
5498	GENESIS VP DIREC	N/A	N/A	N/A	N/A	01/28/2010	24 MONTHS	01/28/2012
6025	GENESIS VP DIREC	N/A	N/A	N/A	N/A	01/28/2010	24 MONTHS	01/28/2012
63009/G2S-16100	GENESIS II	G2SKD-03315	G2SKD-03323	149137	149208	02/10/2010	24 MONTHS	02/10/2012
63010/G2S-16101	GENESIS II	G2SKD-03345	N/A	171108	171134	02/10/2010	24 MONTHS	02/10/2012
63011/G2S-16102	GENESIS II	G2SKD-03324	G2SKD-03326	5484	5168	02/10/2010	24 MONTHS	02/10/2012
63012/G2S-16103	GENESIS II	G2SKD-03313	G2SKD-03328	149148	149194	02/10/2010	24 MONTHS	02/10/2012
63013/G2S-16104	GENESIS II	G2SKD-03251	G2SKD-03344	149132	149191	02/10/2010	24 MONTHS	02/10/2012
7602	GENESIS VP DIREC	N/A	N/A	220694	220797	01/28/2010	24 MONTHS	01/28/2012

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KUSTOM Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
17511/FF-4573	FALCON	HANDHELD	N/A	11353	N/A	03/19/2010	24 MONTHS	03/19/2012
17744/FF-5736	FALCON	HANDHELD	N/A	16841	N/A	04/01/2010	24 MONTHS	04/01/2012
17755/FF-5535	FALCON	HANDHELD	N/A	18852	N/A	02/04/2010	24 MONTHS	02/04/2012
62242/T-1202	TALON	N/A	N/A	39675	N/A	03/22/2010	24 MONTHS	03/22/2012
62243/T-1203	TALON	N/A	N/A	34531	N/A	03/22/2010	24 MONTHS	03/22/2012
62245/T1205	TALON	N/A	N/A	9693	N/A	02/10/2010	24 MONTHS	02/10/2012
62390/E-19640	GOLDEN EAGLE	KM20611	KM20609	220713	220630	02/09/2010	24 MONTHS	02/09/2012
XE17059	GOLDEN EAGLE II	K003836	K003837	40646	42694	03/31/2010	24 MONTHS	03/31/2012



Certified by: Charles N. Brown
Place: Redmond, WA

April 5, 2010
Date