

CHAPTER 2

RADAR/LIDAR PROGRAM MANAGEMENT

TABLE OF CONTENTS

GENERAL 2-3

RADAR/LIDAR PROGRAM FORMAT DEFINED 2-3

 Area and Division Radar/Lidar Coordinators 2-3

 Area Evaluations and Approval of Target Roadways 2-3

 Uniform Recordkeeping Procedures..... 2-3

 Audits of Area Radar/Lidar Programs 2-3

RADAR/LIDAR COORDINATORS 2-3

 Area Radar/Lidar Coordinator..... 2-3

 Division Radar/Lidar Coordinator..... 2-4

 Headquarters Radar/Lidar Coordinator 2-5

SUPPORTING DOCUMENTATION 2-5

 General..... 2-5

 CHP 99G, Radar Program Record 2-6

 CHP 227, Speedometer Calibration Chart..... 2-6

 Headquarters Radar/Lidar Inventory 2-6

 CHP 99F, Radar/Lidar Unit Record 2-6

 Certification Document 2-7

 CHP 99B, Radar Calibration Log..... 2-7

 Repair Records..... 2-7

 CHP 99D, Radar/Lidar Repair Order 2-7

 CHP 99E, Radar/Lidar Target Roadway Record 2-7

 Area Radar/Lidar Enforcement Guide 2-8

 Engineering and Traffic Survey 2-8

 Certificate of Attainment 2-8

 Employee Training Records System 2-8

 CHP 99A, Radar/Lidar Range and Speed Determination Test 2-8

 CHP 215, Notice to Appear 2-8

 CHP 99C, Radar/Lidar Operator Log for Multiple Unit Enforcement..... 2-9

 CHP 99H, Radar/Lidar Program Audit..... 2-9

ADDING NEW TARGET ROADWAYS TO AREAWIDE PROGRAMS..... 2-9

AREAWIDE PROGRAM REQUIREMENTS - SUMMARY 2-9

ANNEX

A – FORM COMPLETION INSTRUCTIONS 2-11

THIS PAGE INTENTIONALLY LEFT BLANK

CHAPTER 2

RADAR/LIDAR PROGRAM MANAGEMENT

1. GENERAL. Continued support for the use of radar/lidar by the Department requires consistently maintained high standards for equipment, operators, and monitoring of legal requirements. To preserve the radar/lidar program's integrity, standard procedures are required to ensure legal and policy requirements are adhered to. These procedures ensure the continued support for the Department's radar/lidar program by California's motorists and judicial system.

2. RADAR/LIDAR PROGRAM FORMAT DEFINED. The only approved format for radar/lidar speed enforcement programs includes:

a. Area and Division Radar/Lidar Coordinators. Each Area and field Division with a radar/lidar program should have a radar/lidar coordinator trained by Research and Planning Section (RPS) or an RPS-authorized instructor. The specialized training of the coordinator will provide the expertise necessary for the evaluation of the legal and policy requirements needed to recommend radar/lidar deployment on roadways to the Area commander.

b. Area Evaluations and Approval of Target Roadways. Target roadways will be evaluated for legal and policy requirements at the Area level, and if all are met, will be approved for radar/lidar deployment by the Area commander.

c. Uniform Recordkeeping Procedures. Equipment, roadway, operator training, and vehicle information necessary to use enforcement radar/lidar equipment will be recorded in the same manner for each Area/Division involved in a radar/lidar program. The format and recordkeeping requirements are described in this chapter.

d. Audits of Area Radar/Lidar Programs. To ensure policy and legal requirements are being complied with, Divisions will be responsible for auditing Area radar/lidar programs as described in Chapter 7, Audit Procedures, of this manual.

3. RADAR/LIDAR COORDINATORS.

a. Area Radar/Lidar Coordinator. Each Area which deploys radar/lidar should have a radar/lidar coordinator trained by RPS or an RPS-authorized instructor. The Area radar/lidar coordinator will have the following responsibilities:

(1) Maintenance of the local records required by this manual.

- (2) Provide information required by this manual to the headquarters radar/lidar coordinator.
 - (3) Field certification and recertification of radar/lidar operators.
 - (4) Examination of proposed target roadways to determine if they meet the legal and policy requirements for radar/lidar deployment.
 - (5) Make recommendations to the Area commander concerning proposed target roadways.
 - (6) Review of Engineering and Traffic Surveys (ETS) to determine if the requirements of Section 627 California Vehicle Code (CVC) and the California Department of Transportation (Caltrans) Manual on Uniform Traffic Control Devices (MUTCD) have been met by local jurisdictions. A copy of the MUTCD is available on the Caltrans Web site, <http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/>. Information pertaining to speed limits is contained in Section 2B.13 of the MUTCD.
 - (7) Provide for the repair and/or certification of radar/lidar devices which are used by the Area.
 - (8) Assist the command with the documentation of incidents in which devices have been lost, damaged, or destroyed.
 - (9) Preparation of an Area Radar/Lidar Enforcement Guide which provides information on locations within the Area where radar/lidar has been approved for deployment. This guide shall be provided to all Area radar/lidar operators. The guide can either consist of a written listing of the information, a map, or a combination of the two.
 - (10) Provide assistance to radar/lidar operators with operational problems concerning radar/lidar devices.
 - (11) Assist members of the public with inquiries concerning radar/lidar.
- b. Division Radar/Lidar Coordinator. Each Division shall have a radar/lidar coordinator trained by RPS or an RPS-authorized instructor. The Division radar/lidar coordinator will have the following responsibilities:
- (1) Maintenance of the Division records required by this manual.
 - (2) Provide information required by this manual to RPS and serve as a liaison between Area radar/lidar coordinators and RPS.

- (3) Audit and review of Area radar/lidar programs for the Division Chief.
- (4) Provide for the repair and/or certification of radar/lidar equipment assigned to the Division (Special Traffic Education Radar [SPECTER] trailers, speedometer calibration, etc.).
- (5) Provide training to Area radar/lidar coordinators and assist with operational problems involving radar/lidar devices.
- (6) Assist members of the public with inquiries concerning radar/lidar.

c. Headquarters Radar/Lidar Coordinator. Headquarters shall have a radar/lidar coordinator in RPS. The headquarters radar/lidar coordinator will have the following responsibilities:

- (1) Monitor changes in the industry concerning radar/lidar and other speed enforcement technologies.
- (2) Determine minimum specifications for equipment used by the Department.
- (3) Assist Areas and Divisions with operational problems.
- (4) Provide suitable information to the Academy for their preparation of lesson plans for radar/lidar speed enforcement. This information will reflect the current state of technology, standard departmental deployment configurations, policy, and legal requirements.
- (5) Maintain the certification status of each device.
- (6) Provide Areas and Divisions with inventory lists of approved equipment.
- (7) Maintain information on repair and damage trends for radar/lidar equipment.
- (8) Assist Areas and Divisions with public inquiries concerning radar/lidar or speed zoning that cannot be answered at the local level.
- (9) Assist other law enforcement agencies with inquiries concerning radar/lidar or speed zoning.

4. SUPPORTING DOCUMENTATION.

a. General. The preparation of radar/lidar program forms and maintenance of associated documents will ensure departmental policy and legal requirements are met. Depending on the needs of the local courts and Area command, the following

forms and documents should be maintained in the command's Radar/Lidar History File (see Chapter 6, Reporting Requirements, Annex A, of this manual). The forms required for documentation of a radar/lidar program are listed below in order of completion. For a chronological list of each type of supporting documentation (by form number) see Chapter 6, Annex A.

b. CHP 99G, Radar Program Record. This form is maintained in the Radar/Lidar History File. A CHP 99G shall be completed by each Area or Division involved in a program involving radar speed enforcement. A CHP 99G is not required for the deployment of SPECTER devices where speed enforcement using SPECTER's radar is not involved. The CHP 99G provides the following information:

- (1) Area identification.
- (2) Local jurisdictions involved.
- (3) Radar/lidar coordinator information.
- (4) Audit history.

c. CHP 227, Speedometer Calibration Chart. The original or a copy of the CHP 227 for each radar enforcement vehicle shall be maintained by the Area radar/lidar coordinator or Division radar/lidar coordinator in the Radar/Lidar History File. The CHP 227 supports the speedometer/radar verification portion of a proper tracking history and may be found at each respective California Highway Patrol Area office.

d. Headquarters Radar/Lidar Inventory. The Headquarters Radar/Lidar Inventory is for the identification and listing of all speed detection equipment deployed or maintained by the Area (or Division). Any speed detection device used for enforcement purposes must be listed on this inventory before use. If needed, Areas may request a copy of their inventory from RPS.

e. CHP 99F, Radar/Lidar Unit Record. For instructions in completing this form, see Annex A. This form is maintained in the Radar/Lidar History File. This form shall be transferred with the equipment if the device is reassigned to another Area. If transferred, a copy of the CHP 99F should be maintained in the Radar/Lidar History File for any pending court cases. After completion, this form will ensure the following legal and policy requirements have been met:

- (1) Assignment – location history.
- (2) Unit is identified.
- (3) Certification history.

- (4) Repair history.
- (5) Antenna and tuning fork assignments.
- f. Certification Document. A certified copy of the original certification document from an approved radar/lidar testing laboratory shall be maintained in the Radar/Lidar History File. This document shall be transferred with the device if the equipment is reassigned to another Area. If transferred, a copy of the certification should be maintained at the originating Area for any pending court cases.
- g. CHP 99B, Radar Calibration Log. Completed radar calibration logs shall be maintained in the Radar/Lidar History File. These records are frequently requested for court trials involving radar.
- h. Repair Records. Since repair records are subject to discovery, the repair records for each device shall be maintained in the Radar/Lidar History File.
- i. CHP 99D, Radar/Lidar Repair Order. This form is generated by RPS in the event a radar or lidar unit is in need of repair. A copy of this form shall be maintained in the Radar/Lidar History File. This form is used for:
 - (1) Identifying (to the headquarters radar/lidar coordinator) failure, damage, and repair trends which can be mitigated by improved operational procedures, purchase specifications, or additional equipment.
 - (2) Providing a supporting document for the repair history of a device.
 - (3) Providing the repair station with information needed to correct a failure or other damage.
- j. CHP 99E, Radar/Lidar Target Roadway Record. For instructions in completing this form, see Annex A. This form is maintained in the Radar/Lidar History File. After completion, this form will ensure the following legal and policy requirements have been met.
 - (1) Roadway location and speed limits are identified.
 - (2) Reason for radar/lidar enforcement (complaints, accidents, etc.).
 - (3) Radar/lidar warning signs are posted pursuant to policy requirements.
 - (4) Engineering and Traffic Surveys are present and reviewed by the Department (where required).
 - (5) Conditioning period.

(6) Commander review.

(7) For programs that are larger in scope (e.g., all county roadways have been surveyed and approved for radar/lidar enforcement) an alternative reporting format may be used in lieu of the CHP 99E. Information contained on the CHP 99E may be summarized by memorandum, database, or other format upon approval of the Division commander. Upon concurrence of the Division commander, the alternative format shall be reviewed by the Division radar/lidar coordinator to ensure that legal and policy requirements have been met.

k. Area Radar/Lidar Enforcement Guide. The guide is prepared by the Area radar/lidar coordinator for the purpose of identifying targeted roadways to Area personnel. The guide shall be provided to all radar/lidar operators in the Area. The guide contains the following information.

(1) The identification of each roadway/sector approved for radar/lidar deployment by the Area commander.

(2) Any special circumstances for radar/lidar deployment unique to an Area (e.g., local court procedures or requirements).

l. Engineering and Traffic Survey. Engineering and Traffic Survey information must be inspected for all ETSs prepared by a local jurisdiction. The inspection is to ensure the minimum requirements of Section 627 CVC and the MUTCD have been met by the local jurisdiction. The results of the inspection are recorded on the CHP 99E. The ETS may be maintained in the Radar/Lidar History File, but can also be maintained at other locations (e.g., court, county road department). The physical location of the ETS is reported on the CHP 99E.

m. Certificate of Attainment. A copy of the Certificate of Attainment, certifying the operator has successfully passed radar/lidar training provided by the Department, shall be kept in the Radar/Lidar History File and records updated in the Employee Training Records System. A copy shall also be kept in the operator's personnel file in case of transfer.

n. Employee Training Records System. The Employee Training Records System shall include the initial and subsequent recertification training for radar/lidar.

o. CHP 99A, Radar/Lidar Range and Speed Determination Test. The CHP 99A shall be maintained in the Radar/Lidar History File.

p. CHP 215, Notice to Appear. The operator's green copy of the CHP 215 will be maintained for one year by the officer. These documents should not be kept in the Radar/Lidar History File. Required information concerning radar/lidar is to be noted on the face of the citation.

q. CHP 99C, Radar/Lidar Operator Log for Multiple Unit Enforcement. The CHP 99C shall be kept in the Radar/Lidar History File.

r. CHP 99H, Radar/Lidar Program Audit. The original radar program audit form shall be maintained in the Division Radar/Lidar History File. An electronic copy of the form shall be sent to RPS within 10 calendar days of completion. A copy should be provided to the Area by Division.

5. ADDING NEW TARGET ROADWAYS TO AREAWIDE PROGRAMS. Roadways which are appropriate for radar/lidar deployment may be added to approved areawide programs by the Area commander. The roadways (and any required ETSs) shall be evaluated as described in this manual and the approved CHP 99E (or alternative format) shall be placed in the Radar/Lidar History File.

6. AREAWIDE PROGRAM REQUIREMENTS - SUMMARY. The table located in Annex A contains a summary of the requirements of departmental radar/lidar programs. The table identifies the issues as either policy or legal requirements. The table also indicates the documentation maintained by the Area or Division which supports the policy or legal requirements for the deployment of radar/lidar.

THIS PAGE INTENTIONALLY LEFT BLANK

ANNEX A

FORM COMPLETION INSTRUCTIONS

1. CHP 99F, RADAR/LIDAR UNIT RECORD. The CHP 99F is used to document the identification, certification, and repair history for a radar/lidar device. This form is kept for the life of the device.
 - a. Counting Unit Serial Number. Enter the manufacturer's serial number from the counting unit. For the Stalker Dual, this is the serial number from the Logic Counting Unit, black computer box.
 - b. CHP Number. Enter the California Highway Patrol (CHP) property tag number.
 - c. Manufacturer. The manufacturer's name on the radar/lidar device (e.g., Stalker, Decatur).
 - d. Model. Enter the manufacturer's model name for the device (e.g., Dual SL, DSR, TruSpeed, Ultra Lyte, etc.)
 - e. Freq. (0.1 GHz). For radar only, enter the frequency (in gigahertz [GHz]) of the device to the nearest .01 GHz.
 - f. Device Purpose. Check the box which identifies the device purpose. For stationary-only devices which are for enforcement and incidentally used for speedometer calibration, check both the enforcement and speedometer calibration boxes.
 - g. Device Owner. Indicate CHP as the owner of any radar/lidar device.
 - h. Warranty Date. This is the warranty start date for the device.
 - i. IACP Certification Information. Enter information on certification for each test performed. Lab test number is the year followed by the sequential lab number from the laboratory (e.g., 19-1234). There is room for the initial test plus six additional tests (19-year form).
 - j. Assignments – Location. Enter the Area number, vehicle license plate number, and date that the equipment is assigned to an Area. If the device is transferred to another Area, enter the new location information on the next line of the CHP 99F.
 - k. Assignments – Display. Enter the serial number of a separate display unit. Leave this blank for handheld units.

l. Assignments – Antenna 1. Enter the serial number and date of assignment of the primary antenna. If an antenna is damaged and replaced, enter the number of the new antenna on the next line of the CHP 99F. For hand-held devices, leave these boxes blank.

m. Assignments – Antenna 2. Enter the serial number and date of assignment of the secondary antenna. If an antenna is damaged and replaced, enter the number of the new antenna on the next line of the CHP 99F. For hand-held or single antenna devices, leave these boxes blank.

n. Assignments – Head-Control. Enter the serial number (or inventory number) of the hand control for the radar device (if any).

o. Assignments – Low Speed Fork. Enter the serial number and date of assignment of the low speed tuning fork. If a low speed fork is replaced, enter the number of the new low speed fork on the next line of the CHP 99F.

p. Assignments – High Speed Fork. Enter the serial number and date of assignment of the high speed tuning fork. If a high speed fork is replaced, enter the number of the new high speed fork on the next line of the CHP 99F.

q. Traffic Radar/Lidar Repair Record. Enter information for any repairs of the device. When the device is returned to service, enter the date in column four.

2. CHP 99E, RADAR/LIDAR TARGET ROADWAY RECORD. The CHP 99E is used to document Area target roadways to ensure legal and policy requirements have been met and are maintained in the Radar/Lidar History File.

a. Roadway/Subdivision Name. Enter the name of the target roadway involved. For certain locations where a large number of residential roadways (which meet the definition of local streets or roads per California Vehicle Code [CVC] Section 40802) are involved, the block of roadways can be identified by a subdivision name. For example, the name of a housing tract or planned unit development could be entered in the box.

b. Page #. Enter the number of pages (usually 1 of 1). If more than one CHP 99E is required to list segments or roadways in a subdivision, enter sequential numbers.

c. Date Prepared. Enter the date the CHP 99E was prepared.

d. Area #. Enter the three-digit number for the CHP Area (e.g., Barstow Area "835").

- e. Prepared By. Enter the last name, first name, and middle initial of the person preparing the CHP 99E form.
- f. Preparer's I.D. No. Enter the identification number of the person preparing the form.
- g. Radar/Lidar Enforcement Due To. Check the box which most appropriately describes the reason for the initiation of radar/lidar enforcement on this roadway. List details on the reverse side if necessary.
- h. Commander Review. The commander must review and approve each roadway involved in a radar/lidar program for compliance with legal and departmental requirements. After review, the commander shall initial and date each CHP 99E where the roadway or subdivision has been approved.
- i. Roadway/Segment Information – Segment/Roadway Name. For a single target roadway, check the "Segment" box. There is no need to reenter the name of the roadway. For a roadway within a subdivision, check the "Roadway Name" box and enter the name of the roadway.
- j. Roadway/Segment Information – From. Enter the beginning cross street, milepost, or other location which begins the roadway or roadway segment.
- k. Roadway/Segment Information – To. Enter the ending cross street, milepost, or other location which terminates the roadway or roadway segment.
- l. Roadway/Segment Information – Length. Enter the length in miles of the segment or roadway described under the individual index number. For example, if a five-mile-long state route is composed of one 45-miles-per-hour (MPH) segment 2.4 miles in length and another 55 MPH segment 2.6 miles in length, there would be two lines (index numbers) completed. The length in index line number 1 would be "2.4" and the length in index line number 2 would be "2.6" miles.
- m. Roadway/Segment Information – # of Lanes. Indicate the number of traffic lanes for both directions. If a bike lane exists on the roadway, add the letter "B" after the number of lanes is entered (e.g., "2B").
- n. Roadway/Segment Information – Speed Limit. Enter the speed limit for the segment of roadway in MPH.
- o. Roadway/Segment Information – Rdwy. Width. Enter the width in feet of the roadway surface.
- p. Roadway/Segment Information – Radar Program. Check the box which indicates whether this segment is for a new target roadway segment or if the roadway segment is in an existing radar program which is being converted.

- q. Roadway/Segment Information – Conditioning Period Start Date. Enter the beginning date of the conditioning period. For existing roadways which are being converted to the CHP 99E, write "N/A" in this box.
- r. Roadway/Segment Information – Date of First Enforcement. Indicate the date (six digit; e.g., 062412) that enforcement began on the roadway segment. For existing programs where the exact date is not known, enter an approximate date followed by "est" (e.g., 041287 est).
- s. Roadway/Segment Information – Radar Warning Signs. Check the box (or boxes) which apply to the status of radar warning signs for this roadway segment.
- t. Roadway/Segment Information – Engineering and Traffic Survey. Check the box which best describes the status and requirements for an engineering and traffic survey (ETS) for the roadway segment. List the vehicle code section for the speed limit authority for any exemption not specifically listed (e.g., Snow Speed Limit, Section 22363 CVC).
- (1) Engineering and Traffic Survey Exempt Due to Federal Highway System Maps. These maps should be carefully reviewed prior to identifying this exemption, as very few roadways qualify for this exemption. Consult the Division or headquarters radar/lidar coordinator concerning questions regarding this exemption.
 - (2) For roadways identified as ETS exempt due to a local street or roadway exemption, ensure the roadway design is applicable. A commonly overlooked portion of the exemption criteria is that the roadway's **primary purpose is to provide access to abutting residential property**. Many of the roadways which meet the other three qualifying criteria are actually more properly identified as Urban or Rural Collector Street Systems by the Federal Highway Administration Highway Functional Classification manual. Also ensure there is only one traffic lane in each direction. Local jurisdictions have added bicycle lanes to reduce the roadway width to less than the maximum of 40 feet; however, bicycle lanes are traffic lanes and the roadway still requires a current ETS for radar/lidar enforcement.
 - (3) For deployment on roadway segments for school zone enforcement only (where children are present), check the "ETS exempt (School zone enforcement only) box.
- u. Roadway/Segment Information – School Zone/School Sign. Check the box where a school zone exists in the roadway segment. Check the "Yes" box after verification of school zone warning signs required by Section 22352(b)(2) CVC.

v. Engineering and Traffic Survey Information. Engineering and Traffic Surveys are required for many prima facie speed limits. Where radar/lidar is deployed and ETSs are required, the survey must have been performed within five years of the violation. On some occasions, local jurisdictions may allow speed limits to be influenced politically. The Department will not support the enforcement of artificially low speed limits which violate the speed zoning statutes established in Section 627 CVC and the California Department of Transportation Manual on Uniform Traffic Control Devices. Limits so established could cause situations to arise where citations are issued when there are no true violations of the basic speed law.

(1) To ensure these improperly prepared speed zones are screened from being included in departmental radar/lidar programs, a cursory review of the survey is required by the Department to determine if it minimally meets legal requirements. If a radar/lidar coordinator believes that a survey is questionable, the Division and/or headquarters radar/lidar coordinator should be contacted prior to contacting the county or local jurisdiction.

(2) The results of the review and certain data elements from the survey are entered in the ETS information portion of the CHP 99E. The physical location of the survey documents shall also be entered on the CHP 99E.

LEGAL OR POLICY REQUIREMENTS	ISSUE	SUPPORTING DOCUMENTATION
Initiation of Area Program Radar Coordinator	Policy	CHP 99G, Radar Program Record CHP 99H, Radar/Lidar Program Audit Certificate of Attainment Employee Training Records System (ETRS)
Trained Operators	Legal (case law) Policy	Certificate of Attainment ETRS CHP 99, Radar/Lidar Speed and Distance Estimation CHP 99A, Radar/Lidar Range and Speed Determination Test
Equipment Repair Records	Legal (case law)	CHP 99B, Radar Calibration Log CHP 99J, Lidar Calibration Log CHP 99F CHP 99D, Radar/Lidar Repair Order Certification Documents
Engineering and Traffic Surveys	Legal (Section 40802 CVC)	CHP 99E (or other approved format)

THIS PAGE INTENTIONALLY LEFT BLANK