4 IN-USE (POST-CERTIFICATION)

The following sections outline the post-certification in-use compliance activities for all applicable industries including:

(1) Defect and Voluntary Emission Recall Reports
(2) Technical Service Bulletins
(3) Manufacturer in-use compliance testing
(4) EPA in-use compliance activities.

The initial phase of Verify will not include the defect report or technical service bulletin processes. Several steps of the in-use process model that are shown in italics do not require support by the Verify computer system but are still included in the model so that the entire in-use process will be documented. Each step applies to all industries unless otherwise specified.

Note:	*Small SI*	*= Under 25 hp spark-ignition nonroad*
	MSI	*= Marine spark-ignition*
	MCI	*= Marine compression ignition*
	Loc	*= Locomotive*
	RR	*= The separate Railroad in-use program*
	HDEvap	*= Heavy duty evap*
	LSI	*= Large spark ignition*
	S-m	*= Snowmobile*
	Nonroad CI	*= Diesel nonroad*
	LD	*= Light-Duty*
	MC	*= Motorcycle*
	ATV	*= All Terrain Vehicle*

4.1 Initial Sign-On Of The Manufacturer Into The Electronic Defect And Voluntary Emission Recall Report System (Separate process- will be a later phase of Verify)

Applicability: Applicable regulated industries. Will be included in a later phase of Verify.

Manufacturers will access EPA's designated defect report web page to log-in to the system. They first must register by filling out the required fields on the EPA web page. When they click the send button, the information is sent to EPA where the in-use team leader reviews their sign-on information approving their request if their name is found on a list of names under the manufacturer in question. This approval allows the individual to use the electronic defect/voluntary emission recall report system.

4.2 Manufacturer Submits Emission Defect Reports And Voluntary Emission Recall Reports To Defect Report (DR) Database (Separate process- will be a later phase of Verify)

Applicability: Applicable regulated industries. Will be included in a later phase of Verify.

Light-Duty: The manufacturer submits a defect report, and voluntary emission recall report, if a campaign is initiated, using the same procedures to identify safety related defects, whenever the manufacturer identifies that a specific emission-related defect exists. Minimally, the manufacturer is required to follow the outline given under Subpart T §85.1903 and §85.1904 for these reports. The electronic submittals of these reports by the manufacturers will free up time spent by in-use team to process these reports into the in-house tracking program presently used. The tracking program may be discontinued, replaced by the electronic system. In the electronic system, EPA's in-use team will review these manufacturer submitted reports for content, logic and any effects to emissions the defects reported may have on the vehicles involved. In certain cases, EPA may want to meet with the manufacturer to discuss other options not taken by the manufacturer, such as recalls, service campaigns, or warranty extensions. In the electronic system the defect report and the voluntary emission recall report will be linked to the checklists presently being used by the team members while they are involved in reviewing these reports. (See attachment 1 for the defect report checklist page and attachment 2 for the voluntary emission recall report checklist page - Quarterly progress reports do not have a checklist associated with them). The team members are instructed in what they need to be reviewing and their response to the information shown on that report. The electronic files will also be used as a means to quickly locate subject searches for future research projects, and the calendar year report, which is placed on the EPA web site for public use. It may also be used to place all non-Confidential Business Information (CBI) documents on the web to cover Freedom Of Information Act (FOIA) requests by the public.

Heavy-Duty/Nonroad: The HD DR process is currently under development so information provided in this document is not final. EPA Receives Defect Reports (DR) from manufacturers. Currently manufacturers send EPA paper defect reports based on the requirements of the CFR. [HD On-highway - 40 CFR 85.1901, NR CI - 89.801, NR SI - 90.801, Marine SI - 91.901, Locomotives - 92.401. Some of these rules have been updated. New regulations would combine the common parts of these different industries.] The current HD/NR defect reporting rate is about 200 per year. If all manufacturers were properly complying the volume would be much higher. New efforts such as guidance letters and workshops are foreseen to improve the reporting rates as well as th e quality of DRs. Note that manufacturers often claim information in their Drs to be confidential business information (CBI). The new HD/NR defect reporting system should allow manufacturers to fill out an electronic form and submit it to EPA (similar to LD) so that EPA will not have to manually enter the HD/NR DR information into the system. A unique EPA DR number should be assigned to each DR and the date of submission should be recorded.

MCI/HDEvap/LSI/S-m: No standard system currently exists to process DRs and VERRs for these industries. Verify should have an electronic form that manufacturers fill out and send to EPA.

4.3 Logging Of All Reports Into An Excel File Used By Upper Management (Separate

process- will be a later phase of Verify)

Applicability: Applicable regulated industries. Will be included in a later phase of Verify.

Light-Duty: A report should be generated that shows the total number of DRs and VERRs by month of each report type, for every manufacturer. Another report should provide the number of submitted DRs and VERRs per calendar year as well as the per million affected sales corresponding to defects and voluntary emission recalls. (See attachment 3 for a copy of these reports). This should be incorporated into the new system.

Heavy-Duty: The HD DR and VERR process will likely incorporate some type of tracking report accessible by management.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: The DR and VERR process will likely incorporate some type of tracking report accessible by management.

4.4 Emission Defect Report Reporting Process

Applicability: All applicable regulated industries. This is a manual process with an interim stand-alone database and will not be part of the Verify computer system until a later phase. Certain industries are required by the regulations to submit emission defect reports to EPA.

4.4.99 Defect Reports Are Distributed To The Certification Members For Review

Light-Duty: Team members are notified electronically via e-mail or other means, that there are reports waiting for their review. Using a canned program for viewing these submitted reports, the team member performs their review and answers the questions on the appropriate checklist linked to the report. They either, complete the review and subsequently close out the report providing the team leader with a copy, or provide the team leader with additional information on the checklist that may be used to initiate further action on the part of the manufacturer. The manufacturer is contacted if necessary, to answer additional questions. ARB is also contacted if EPA feels that California needs to know what action EPA is presently taking on a specific report. Certain statements made in the report may indicate to the team members during their review of the DR or VERR that if possible EPA should conduct in-use compliance testing on vehicles within the group affected by the defect. Background reference data such as Technical Service Bulletins either submitted by the manufacturers, or found on the 'All Data' web site, or warranty data sent to EPA by ARB are used as reference material to give the in-use team an indication of emission control component failures on engine families. If one is found, they download the information and look in the electronic database or ask the team leader to do so if they can't find anything. This step is necessary because the DR database is in constant flux as new reports are constantly being added to the database on a daily basis. If there is no defect report submitted to EPA a call is made to the manufacturer questioning them about the found TSB. With this information the team can target specific engine families/test groups for in-use testing. At that point the in-use testing person is contacted and given information about a particular test group found

within a report that the team members or steering team members or in-use team leader feels should be added to the list of test groups to be brought in for future EPA in-use compliance testing. With the new Verify system, the defect reviewer will make an entry into an in-use tips log to take note of any defect reports that should be added to the list of test groups to be brought in for EPA in-use compliance testing.

Heavy-Duty/Nonroad CI/Nonroad SI/Marine SI/Locomotive: EPA reviews the DR and determines any actions needed to follow up with the DR. Frequently manufacturers must be contacted to provide additional information. A checklist is not currently used but one similar to the LD version will likely be developed.

MCI/HDEvap/LSI/S-m: No standard system currently exists to process DRs and VERRs for these industries. The new system should provide a means to assign a reviewer, a place for comments to be added, and a means to record the review status of the DR. , and its ultimate disposition. Provision should be made for the manufacturer to submit a revised or replacement DR.

Inputs:	*Received Defect Reports from Manufacturer*
Outputs:	*Defect Report reviewed indicator*
	Flagged DR for potential In-Use action
Mechanisms:	*CCD Staff/Contractor*
Controls:	*Review Rules*

4.5 Reports Are Returned To The In-Use Team Leader After Review By The Team Member

Applicability: This is a manual step and will not be part of the Verify computer system.

Light-Duty: At this time the report checklists are reviewed by the in-use team leader for their completeness and signed if completed and subsequently the record is updated in the database under the management report section, assigning a statement and closing the report, or referring it to the in-use Steering Team if there are questions about a manufacturers report. Reports are held in a file folder if there are outstanding questions asked of the manufacturers concerning any report until those questions are answered at which time the report is closed by the in-use team leader. A statement of 'Reviewed no further questions' is placed on the management report section of the database file. This should be automated in the new system.

Heavy-Duty/Nonroad: At the present time the EPA reviewer reviews the DR, follows up with the manufacturer as necessary, includes management if needed, and refers the DR to OECA if applicable. The new system will likely incorporate a checklist similar to LD.

MCI/HDEvap/LSI/S-m: No standard system currently exists to route DRs between the team member and the Leader. In addition to the features specified in 4.4.99, the new system should provide a means to identify where in the routing cycle the document currently exists (similar to the way EPA's Travel Manager works).

4.6 Technical Service Bulletin Reporting Process

Applicability: All applicable regulated industries. This is a manual step and will not be part of the Verify computer system. Certain industries are required by the regulations to submit technical service bulletins to EPA. This process will be detailed in a separate document.

4.6.99 CCD Review of Technical Service Bulletins

Light-Duty: These reports are mailed or dropped off at EPA by the manufacturer in hard copy form. Once received by the team leader they are distributed to the team members who review them and keep all the emission related documents. These documents are filed in the high- density file room.

Heavy-Duty/Nonroad: No standard system currently exists to process TSBs. Reporting reqts for the applicable regulated industries need to be reviewed and review process considered.

MCI/HDEvap/LSI/S-m: No standard system currently exists to process TSBs. Reporting requirements need to be reviewed and a review process considered.

Inputs:	*TSB Website Information*
	TSB Report from Mfr
Outputs:	*TSB reviewed indicator*
	Flagged TSB for potential In-Use action
Mechanism:	*CCD Staff/Contractor*
Controls:	*Review rules*

4.7 Quarterly Reporting By The Manufacturer On All Voluntary Emission Recall Reports For A Minimum Of Six Quarters

Applicability: Light-duty and HD/NR. Verify's document index system will support the collection of electronic copies of manufacturer's quarterly reports (i.e.- PDF, word, or spreadsheet). Any additional IT support such as for the review or analysis of the quarterly reports will not be supported by the beginning phases of the Verify computer system .

Light-Duty: Quarterly reports are required to be submitted a minimum of six quarters to EPA on all VERR's submitted starting with the first quarter after the date of the manufacturers VERR report. Quarterly reports are due twenty-five days from December 31, the second quarter reports are due twenty-five days from March 31, the third quarter reports are due twenty-five days from June 30 and the fourth quarter reports are due twenty-five days from September 30. This information should include 'Emission recall campaign number, Date of owner notification was begun and completed, number of vehicles or engines involved in the recall campaign, number of vehicles or engines known or estimated to be affected by the emission-related defect, number of vehicles or engines inspected, number of inspected vehicles found to be affected, number of vehicles actually receiving repair, number of vehicles determined to be unavailable for inspection

or repair due to exportation, theft, scrapping, or for other reasons. Quarterly report review is performed to see the affects the recall has on the owner population. The vehicles counted within a specific recall are referred to as being captured. If the capture rate, which is the number of vehicles being repaired divided by the affected population of vehicles, times 100, is below what EPA perceives as normal, an additional recall letter may be requested of the manufacturers to be mailed to the owners.

Heavy-Duty/Nonroad: Quarterly reports are required to be submitted a minimum of six quarters to EPA on all recalls starting with the first quarter after the recall begins.

MCI/HDEvap/LSI/S-m: Reporting requirements need to be reviewed and a process developed.

4.8 Selection of Engine Families and Test Groups for EPA In-Use Compliance Testing

Applicability: All regulated industries.

4.8.0 Submit In-Use Tip Log Entry (Link to TG/EF or Vehicle/Engine Model)

Applicability: All regulated industries.

Verify's new In-Use Tip Log will provide CCD's in-use compliance team with a tool for directing their in-use compliance investigations. CCD staff will be able to submit an entry into the in-use tip log any time they suspect there might be a vehicle or engine with an in-use concern. A tip might be based on a reviewed defect report or technical service bulletin, certification review, pre-production confirmatory testing, external source, previous in-use investigation, manufacturer or EPA in-use test data, etc. An entry in the tip log will consist of information such as: description of potential in-use concern, applicable engine family/test group, applicable model year, tip source, and tip submitter. There will be a separate log for each major group of regulated industries (i.e.- light-duty, heavy-duty, nonroad). Use and maintenance of the in-use tips log will be at the discretion of each of CCD's in-use compliance teams. There should be a way to indicate whether a tip was acted upon or not and to archive tips that no longer need to be displayed in the active log.

Inputs:	Updated In-Use tip log entry
	Selected TG/EFs and decision description for EPA In-Use testing
	Flagged DR for potential In-Use action
	Potential In-Use concerns
	TG/EFs flagged based on Mfr In-Use info
	Flagged TSB for potential In-Use action
Outputs:	Submission archive copy
	Updated In-Use tip log entry
	Log of In-Use tips
Mechanisms:	CCD Staff/Contractor
Controls:	Templates and mod. rules

4.8.1 In-Use Test Leader Selects A Test Group/Engine Family For Evaluation At NVFEL or Contractor

Applicability: This is a manual step and will not be part of the Verify computer system. The new In-Use Tip Log will be used by the in-use test leader for the selection of test groups/engine families for EPA's in-use compliance testing.

Light-Duty: EPA selects the light-duty test-groups which are to be evaluated for in-use compliance. The selection is based upon several considerations, categorized by priority: TSB/DR's, CARB compliance information and consultation, new technology evaluation, IUVP failures, previously selected test groups for EPA in-use compliance testing, focus on mfrs with a history of poor emission-performance, fleet-coverage and random selection.

Heavy-Duty: EPA used to pick engine families based on information in the cert database, defect reports, voluntary recall reports, whether the manufacturer signed a Consent Decree and is subject to an NTE, and other information. Now EPA creates a list of general criteria (e.g., late-model engines never tested before, engines tested previously which need to be tested again for followup work, etc.) and the contractor picks specific families which fit the criteria. You should be able to search records on FELs, AECDs, defect reports, etc. in the new system.

Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: No standard system for Test Leader to select a test group.

Inputs:	*Log of In-Use tips*
	List of all TG/EFs, assoc. models and certification data
	EPA In-Use data
	Log of selected TG/EFs for EPA In-Use testing
	Decision to update TG/EF selection log based on evaluation of EPA test results
	In-use investigation update based on evaluation on In-Use test results
Outputs:	*Selected EFs and description for Mfr In-Use testing*
	Mfr notification of selected Efs for EPA In-Use testing
Mechanisms:	*CCD Staff*
Controls:	*Selection Criteria*

4.8.1.1 Submit Test Group/Engine Family Selection Log Update

Applicability: All regulated industries.

Members of CCD's compliance staff will be able to submit updates to the list of selected test groups/engine families. The date an EF/TG was selected should be recorded in the log in addition to any comments about that selection. CCD staff should be able to view the log and to sort it by various parameters entered in the log (e.g.- status of in-use compliance testing, date selected by EPA, model name, reason for selection, etc.).

Inputs:	Selected TG/EFs and decision description for EPA In-Use testing
Outputs:	Submission archive copy
	Log of selected TG/EFs for EPA In-Use testing
Mechanisms:	CCD Staff
Controls:	Template and Modification Rules

4.8.2 TSB's & DR's Reviewed for selected Test Group/Engine Family

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: After a TG/EF is selected for EPA in-use compliance testing, the applicable TSB's and DR's are reviewed by Certification Team members to determine if any customized questions need to be added to the maintenance form or telephone questionnaire.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: No formal system exists for review. As long as the new system stores these items, this review can be done manually.

Inputs:	DR for selected TG/EF
	Log of TG/EFs selected for EPA In-Use testing
	TSB for selected TG/EF
Outputs:	Customized Maintenance form(MF)
	Customized Telephone Questionnaire (TQ)
Mechanisms:	CCD Staff
Controls:	Standard TQ and MF, review rules

4.8.3 Develop VIN Identifiers

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: Once a TG is selected, the in-use engineer will develop the VIN identifiers necessary for vehicle selection which are supplied to the contractor (EG&G). The VIN identifiers are derived from the models and engines covered by the Certificate of Conformity. This information along with the Passenger-Vehicle Identification Manual (provided by the National Insurance Crime Bureau) is used to assemble a chart which will identify appropriate model/engine combinations which are desired for testing.

Heavy-Duty: EPA uses the National Insurance Crime Bureau's (NICB) booklet defining the VIN characters used for commercial vehicles to identify characters used for trucks containing engines to be tested.

Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable at this time.

Inputs:	Certificate Information
	Log of TG/EFs selected for EPA In-Use testing
Outputs:	VIN Identifiers
Mechanisms:	CCD Staff
Controls:	VIN decoder

4.8.4 Produce List of Eligible VINs in Random Order (LD Only)

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: The contractor uses an R.L.Polk computerized list of all passenger-vehicle owners within a 50 mile radius of Ann Arbor, MI. From this list are selected the names of owners of the vehicles desired for in-use testing. The program used to interrogate the owner-file automatically randomizes the list.

Heavy-Duty: A computer program was used to search through state registration data using certain VIN characters. Randomness wasn't an issue so this step is not applicable.

Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable.

Inputs:	VIN Identifiers
	Registration list of VINs and owner contact info
Outputs:	List of eligible VINs and owner contact info
Mechanisms:	CCD Contractor
Controls:	VIN list format

4.9 Identify Potential In-Use Vehicles/Engines

Applicability: All regulated industries.

4.9.1 Determine HD Engine Source (HD/NR only)

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Heavy-Duty: EPA called anyone who might have trucks to be tested. Utility companies, truck rental companies, companies whose names appeared in state registration data and GSA vehicle listings, state government public works departments, and other organizations were included in these phone calls. EPA scouted specific vehicles by visiting various companies, recording engine family names and other data, and testing to see if the vehicle's diagnostic port provided the type of data needed to run a test.

Nonroad CI: For the most part, the contractor identified whether it had any equipment at the Proving Ground which could be tested.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable.

Inputs:	*-Any publicly-available source of information (phone books, looking outside and observing trucks, etc.)* *-State registration data* *-Log of selected TG/EFs for EPA In-Use testing*
Outputs:	*List of HD engine owners*
Mechanisms:	*CCD Staff*
Controls:	*N/A*

4.9.2 In-Use Test Leader Provides Materials To The On-Site Contractor

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: Telephone questionnaire (TQ) and maintenance form (MF) as well as VIN identifiers are supplied to EG&G (via contract-manager) to aid them in procuring vehicles in the desired test-group. The TQ gathers information about each car or truck including the maintenance performed. The MF documents the mechanical work done on each test-vehicle subsequent to procurement. Both of these documents will change from time-to-time. Currently, this material is provided in hard copy. This process would be considerably streamlined if stored and transmitted electronically.

Heavy-Duty/Nonroad CI: Almost nothing is provided to the contractor to facilitate procurement/screening. A list of general categories is provided (see 4.8.1). The new system should include a feature for creating a telephone questionnaire and whatever other documentation EPA/the contractor might use to screen vehicles.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: No testing is currently done so no materials are provided. The new system should have the option of creating procurement documentation similar to HD/NR. Vehicles and Engines are Identified. As noted the certification database.

Inputs:	*Vehicle/Engine accepted/rejected indicator based on TQ*
	List of HD engine owners
	Customized Maintenance form (MF)
	Customized Telephone Questionnaire (TQ)
	Vehicle/Engine accepted/rejected indicator based on inspection
	Updated class status report
	List of eligible VINs and owner contact info
Outputs:	*Completed TQ for selected VIN*
Mechanisms:	*CCD Staff & Contractor*
Controls:	*TQ; VIN selection criteria and contact info*

4.9.3 Decide to Bank Vehicle/Engine

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: A vehicle is banked if all acceptance criteria of the TQ is met. The TQ contains a certain number of questions. Those questions which deal with maintenance and usage of the vehicle have individual criterium. If all these criteria are met, the vehicle is accepted.

Heavy-Duty/Nonroad CI: As soon as EPA determines that a truck or equipment is available, a date is set for the test.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable at this time.

Inputs:	*Completed TQ for selected VIN*
Outputs:	*TQ for banked vehicle/engine*
	Vehicle/Engine accepted/rejected indicator based on TQ
Mechanisms:	*CCD Staff & Contractor*
Controls:	*Decision criteria*

4.9.4 Decide to Procure Vehicle

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: If a vehicle is found to be acceptable vis-a-vis the TQ, the vehicle is banked.

Heavy-Duty/Nonroad CI: As soon as EPA determines a vehicle is available, it is "procured" (date is set for the test).

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable at this time.

Inputs:	*Vehicle/Engine accepted/rejected indicator based on TQ*
	VIN of selected vehicle
	Updated class status report
Outputs:	*Updated class status report*
	Requested delivery date
Mechanisms:	*CCD Staff*
Controls:	*Owner contact info and decision criteria*

4.9.5 Contact Owner

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: After a vehicle is banked it remains there until the procurement schedule requires its pick up. The owner is contacted a week prior and arrangements made for delivery to EPA by the owner or pick up by the contractor employees.

Heavy-Duty/Nonroad: EPA (or the contractor) contacts the owner at the beginning of the process. If a date can be set for the test, it's set. There is no second contact. (If the elapsed time between the conversation and the test date is long, the owner might be contacted as a reminder.)

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable at this time.

Inputs:	*TQ for banked Vehicle/Engine*
	Requested delivery date
Outputs:	*Modified TQ*
	Owner Decision Indicator
Mechanisms:	*EPA Contractor*
Controls:	*Owner contact info*

4.10 Procure In-Use Vehicles/Engines

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

4.10.0 Procure Vehicle/Engine

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: The contractor performs an incoming inspection in the presence of the owner. Body dents are recorded. Test-group from the engine-emission label is compared to that which is desired by EPA. Engine and transmission oil levels are checked. Tire condition is evaluated as well as the clutch and brake operation. The fuel-pipe inlet restrictor is inspected.

Heavy-Duty/Nonroad CI: The owner is phoned and asked when the vehicle could be tested. A test is scheduled. The truck is not procured in the sense that it is sent to a location where test facilities are located.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable at this time.

Inputs:	*Modified TQ*
	Owner Decision Indicator
Outputs:	*Procured vehicle/engine*
	Owners maintenance records
	Modified TQ
Mechanisms:	*EPA Contractor*
Controls:	*Procurement Procedure*

4.10.1 Contractor Inspects Test-Vehicle And Provides Vehicle To LOD or Test Contractor For FTP Testing

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: When maintenance is completed, contractor passes vehicle to LOD for testing.

Heavy-Duty/Nonroad: The contractor drives out to the participant's location and tests the vehicle. There is no "inspection" per se and no handover to another party.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable at this time.

Inputs:	*Modified test questionnaire(TQ)*
	Owners maintenance records

	Procured vehicle/engine
Outputs:	*Incoming inspection results verified by owner*
	Inspected vehicle/engine
	Signed and reviewed TQ by owner to Mfr and CCD
Mechanisms:	*CCD Staff & Contractor*
Controls:	*Incoming Inspection form*

4.10.2 Decide to Test based on Incoming Inspection

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: If all incoming-inspection items are met, vehicle is accepted into the program. Minor discrepancies are discussed with EPA representative.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable at this time.

Inputs:	*Incoming Inspection results*
Outputs:	*TQ for rejected vehicle*
	Filled out rejection form
	Rejected vehicle
	Vehicle/Engine accepted/rejected based on incoming inspection
Mechanisms:	*CCD Staff and Contractor*
Controls:	*Decision criteria; Rejection form*

4.10.3 Perform Emission Inspection & Maintenance (LD only)

Applicability: Currently light-duty only (why is this LD only?). This is a manual step and will not be part of the Verify computer system.

Light-Duty: After the vehicle is accepted into the program, a pretest maintenance (M2) is performed. All emission-control systems are interrogated electronically for failure codes. All fluid-levels are checked and vacuum hoses inspected for correct connection. All inspection and maintenance is carried out using the MF.

Heavy-Duty/Nonroad: Not applicable.

Inputs:	*Vehicle/Engine accepted/rejected based on incoming inspection*
	Service Manual
	Inspected Vehicle
Outputs:	*Vehicle/Engine accepted/rejected based on emissions inspection*
	Filled out rejection form
	Rejected vehicle
	Emission inspection & maintenance results
Mechanisms:	*CCD Staff and Contractor*

Controls: *Emission Inspection Form, Maintenance form; rejection form*

4.11 EPA Collects Vehicle/Engine Information and Test Parameters from Manufacturers

Applicability: All regulated industries.

Light-Duty: For all vehicles selected for surveillance testing at NVFEL, the manufacturer must submit test parameters that is needed by LOD to complete testing. This information must be delivered to LOD or placed in a location where LOD may introduce it into their computer system.

Heavy-Duty/Nonroad: For about the first half of the program, EPA tried to get torque information directly from the manufacturers. Currently, little or no attempt is made to get torque maps from the manufacturer; sales literature from various web sites is used to create an approximation of the wide-open-throttle torque of the engine.

4.11.1 Notify Mfr of EPA In-Use Testing plan (currently LD Only)

Applicability: All regulated industries.

Light-Duty: The in-use leader will advise the manufacturer by letter that a TG marketed by them has been selected for in-use testing at NVFEL. The letter requests manufacturers to submit to EPA information needed to test their vehicles.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable.

Inputs:	Log of selected TG/EFs for In-Use testing
Outputs:	Notification to Mfr of EPA's In-Use testing plan and request for test parameters
Mechanisms:	CCD Computer
Controls:	Letter template and contact info

4.11.2 Submit Test Parameter Docs (currently LD Only)

Applicability: Currently light-duty only.

Light-Duty: Manufacturers will submit to Verify's Internal Document Index System any documents needed by EPA to conduct in-use compliance testing.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m- Not applicable

Inputs:	Notification to Mfr of EPA's In-Use testing plan and request for test parameters
Outputs:	Mfr In-Use test info and test parameters for selected TG/EFs Submission archive copy

Mechanisms: Manufacturer
Controls: Doc rules and info template

4.11.3 Validate Test Parameter Doc Info (currently LD Only)

Applicability: Currently light-duty only.

Validation rules will be used to determine whether the information submitted by the manufacturer is complete and accurate. This initial validation done by the computer will check to make sure that no required fields have been left blank and that the values of certain critical fields are of a valid type or length. Some errors will result in a submission being rejected while others will allow the submission to be processed but with an error flag. The manufacturer will receive a "receipt and error report" that confirms that CCD received their submission and that specifies any corrections and/or updates the manufacturer must make.

Inputs: Updated test parameters
Mfr In-Use test info and test parameters for selected TG/EFs
Outputs: Receipt/Error report
Validated Mfr In-Use test parameters
Mechanisms: CCD Computer
Controls: Validation rules

4.11.2.1 Submit Test Parameter Updates (currently LD Only)

Applicability: Currently light-duty only.

The manufacturer will submit any necessary corrections or updates to their "Test Parameter Information" via the designated secure web site. They will be able to retrieve their previous submission, make needed updates, and resubmit the information to CCD's computer.

Light-Duty: Manufacturers will submit any updates to the documents sent in 4.11.2.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable.

Inputs: Receipt/Error report
CCD request for test parameter update
Outputs: Updated test parameters
Submission archive copy
Mechanisms: Mfr
Controls: Info template and mod. Rules

4.11.4 Review Test Parameters (currently LD Only)

Applicability: Currently light-duty only.

Light-Duty: CCD compliance staff reviews the test parameter documents received from the manufacturer to ensure that all information needed for testing was included.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable.

Inputs:	Certificate Information
	Validated Mfr In-Use test parameters
Outputs:	CCD request for test parameter update
	Reviewed Mfr In-Use test parameters
Mechanisms:	CCD Staff/Contractor
Controls:	Review Rules

4.11.5 Obtain Torque Map (HD/NR only)

Applicability: Heavy-duty and nonroad engine tests only. This is a manual step and will not be part of the Verify computer system. (Or will the torque maps be stored in Verify's document index system?)

Light-Duty: not applicable.

Heavy-Duty/Nonroad: Data is collected from various web sites and used to create an approximation of the maximum torque of the engine.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: NA

Inputs:	*Vehicle/Engine accepted/rejected based on incoming inspection*
	Engine configuration identifiers
Outputs:	*HD Torque Map*
Mechanisms:	*CCD Staff and Contractor*
Controls:	*Torque map sources*

4.12 Conduct In-Use Compliance Test

Applicability: All regulated industries.

4.12.1 Schedule Test

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system. (Or will LOD/contractor submit the test date to Verify so there is an electronic list of all scheduled in-use test dates?)

Light-Duty: *Testing typically includes the federal test procedure (FTP), supplemental FTP, evaporative testing, highway fuel economy test and on-board diagnostics evaluation. A more sophisticated computer system would allow vehicular movement to be tracked electronically, thus providing a more positive indication of "vehicle activity needed". The contractor already has an EPA-designed, vehicle-tracking system but it is not shared with anyone else in the in-use program other than hard copy. Expanding this system electronically will move test vehicles through the system more quickly*

Heavy-Duty/Nonroad: See 4.10.0.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: NA

Inputs:	Updated vehicle/engine test info
	Retest indicator
	Test Info
	Validated Mfr In-Use
	Cert Info
	Vehicle/Engine info
	Vehicle/Engine accepted/rejected based on emissions inspection
Outputs:	CCD Notification of test date
	Request for additional info to schedule a test
	Test date
Mechanisms:	CCD Staff & Contractor; LOD/Test Contractor
Controls:	Test procedures and test schedule

4.12.1.1 Submit Update to Vehicle/Engine Test Information

Applicability: All regulated industries.

CCD in-use compliance staff will submit any necessary corrections or updates to the vehicle/engine test information via the designated secure web site. They will be able to retrieve their previous submission, make needed updates, and resubmit the information to CCD's computer.

Light-Duty: These test-parameters as corrected will be used to test the in-use vehicle.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not applicable.

Inputs: Request for additional info to schedule a test
Outputs: Updated vehicle/engine test info
Mechanisms: CCD Staff/Contractor
Controls: N/A

4.12.2 LOD or Contractor Tests Vehicle/Engine

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: Based upon test-parameters provided by the manufacturer through test leader, LOD tests vehicle, LOD database stores data; copy supplied to in-use test-leader. Now only provided by hard copy. This hard-copy data is entered into a separate CCD database in order to publish reports on in-use class activity.

Heavy-Duty/Nonroad: The contractor drives to the participant's location, tests the truck, and takes the data back to the contractor's offices. The new system should include a feature for submitting data files via a web page. The contractor should log in on the day of the test (or shortly after) and submit the data. The system should notify the In-Use Team as soon as it senses that the contractor has submitted new data to the system.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not currently applicable.

Inputs: Test date
HD Torque map
Inspected vehicle/engine
Validated test info
Outputs: LOD/Contractor's In-Use test results report
Final LOD hard copy test packet
EPA non-modal (bag) In-Use test results
EPA In-Use vehicle/engine information
EPA real-time modal (1 Hz) in-use test results
Summary of EPA modal (1 Hz) test results

Mechanisms: LOD/Test Contractor
Controls: Test procedures

4.12.3 Perform Special Maintenance

Applicability: All regulated industries. This is a manual step and will not be part of the Verify computer system.

Light-Duty: If an in-use test vehicle fails to meet applicable emission standards, further investigation is carried out by the contractor under EPA supervision to determine the cause of the failure.

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m- Not applicable.

Inputs: *DR*
TSB
Service Manuals
Maintenance decision indicator
Outputs: *Retest indicator*
Decision to release vehicle indicator
Release vehicle request
Procure similar vehicle indicator
Released vehicle
Decision to update TG/EF selection log based on evaluation of EPA test results
Mechanisms: *CCD Contractor*
Controls: *Special Maintenance form*

4.13 LOD or Contractor Sends In-Use Test Data To CCD

Applicability: All regulated industries.

4.13.1 LOD or Contractor Transmits Test Data To CCD

Applicability: All regulated industries.

Light-Duty: When a vehicle is tested, the entire set of data should be submitted electronically from LOD to CCD, in-use class data would be held in a permanent electronic file accessible for publication of CCD surveillance reports.

Heavy-Duty/Nonroad: The email method used by the contractor in the past to send data to EPA has collapsed. No acceptable method is currently in place to transmit data in a way that keeps the In-Use Team up to date on what has been tested. See 4.12.2 for a description of what the new system should do in this area.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Not currently applicable.

Inputs:	LOD/Test Contractor In-Use test results report
	EPA non-modal (bag) In-Use test results
	EPA In-Use vehicle/engine information
	EPA real-time modal (1 Hz) in-use test results
	Summary of EPA modal (1 Hz) test results
Outputs:	Submitted LOD/Test Contractor In-Use test results report
	Submitted EPA non-modal (bag) In-Use test results
	Submitted EPA In-Use vehicle/engine information
	Submitted EPA real-time modal (1 Hz) in-use test results
	Summary of EPA modal (1 Hz) test results
	Submission archive copy
Mechanisms:	LOD/Test Contractor
Controls:	Info template

4.13.2 Validate Test Results

Applicability: All regulated industries.

Validation rules will be used to determine whether the information submitted by the manufacturer is complete and accurate. This initial validation done by the computer will check to make sure that no required fields have been left blank and that the values of certain critical fields are of a valid type or length. Some errors will result in a submission being rejected while others will allow the submission to be processed but with an error flag. The manufacturer will receive a "receipt and error report" that confirms that CCD received their submission and that specifies any corrections and/or updates the manufacturer must make.

Inputs:	Submitted LOD/Test Contractor In-Use test results report
	Submitted EPA non-modal (bag) In-Use test results
	Submitted EPA In-Use vehicle/engine information
	Submitted EPA real-time modal (1 Hz) in-use test results
	Summary of EPA modal (1 Hz) test results
	Corrected LOD/Test Contractor In-Use test results report
	Corrected In-Use test results
Outputs:	Receipt/Error report
	Validated In-Use test results report
	Final LOD test packet
	Validated EPA non-modal (bag) In-Use test results
	Validated EPA In-Use vehicle/engine information
	Validated EPA real-time modal (1 Hz) in-use test results
	Validated Summary of EPA modal (1 Hz) test results
Mechanisms:	CCD Computer
Controls:	Validation rules

4.13.1.1 Submit Corrections to In-Use Data

Applicability: All regulated industries.

LOD or contractor will submit any necessary corrections or updates to their in-use information via the designated secure web site. They will be able to retrieve their previous submission, make needed updates, and resubmit the information to CCD's computer.

Inputs:	Receipt/Error report
	In-Use test results
	LOD/Test Contractor In-Use test results report
Outputs:	Submission archive copy
	Corrected LOD/Test Contractor In-Use test results report
	Corrected In-Use test results
Mechanisms:	LOD/Test Contractor
Controls:	Info template and mod. rules

4.14 Evaluate In-Use Test Results

Applicability: All regulated industries.

4.14.1 In-Use Test Leader Prepares Test Group/ Engine Family Report

Applicability: All regulated industries.

Light-Duty: Based upon data supplied by LOD, test-leader prepares a report summarizing data generated by vehicles evaluated. These reports should be entered into the CCD database when completed. Generally, a report is published on a weekly basis upon the completion of testing in each class. All emission-data is included in the test-group report example attached)

Heavy-Duty/Nonroad CI/Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: No standard system exists for reporting. Details need to be developed for the content of an engine family report.

Inputs:	Validated In-Use test results
	Final LOD test package
	Updated status of class report
	FE label value
	Certificate Info
	Validated In-Use test results report
Outputs:	Maintenance decision indicator
	Retest indicator
	Decision to release vehicle indicator

	Release vehicle request
	Decision to update TG/EF selection log based on evaluation of EPA test results
	Released vehicle
	Procure similar vehicle indicator
Mechanisms:	CCD Staff
Controls:	Evaluation criteria

4.15 In-Use Test Leader Generates Yearly Report

Applicability: All regulated industries.

In-use yearly report will be published to aid in the following fiscal year planning and summarize fuel-economy data. This report will contain a summary of all test-groups selected and tested, the emission results, and what remedial action arose from the testing, if any.

4.15.1 Compile Summary Report of External In-Use Information

Applicability: All regulated industries.

With Verify, a report can be generated that summarizes any in-use data submitted by manufacturers, CARB, or other external parties. The summary report will be able to provide a detailed year-end review of test-classes and the related data.

Inputs:	Validated EPA In-Use Test results
	Validated non-modal (bag) In-Use test results
	Validated In-Use vehicle/engine info
	Validated Mfr summary of modal (1HZ) test results
	Summary report criteria
	Modal (1 HZ) test results summary report
Outputs:	Compiled In-Use Summary report
	Updated class status report
Mechanisms:	CCD Staff and computer
Controls:	Summary report format

4.16 Manufacturers Submit In-Use Data

Applicability: All applicable regulated industries.

4.16.1 Manufacturers Submit Their Own In-Use Data To EPA.

Applicability: Applicable regulated industries.

Light-Duty: Manufacturers will submit in-use test results to Verify as required by the CAP 2000 regulations.

Heavy-Duty/Nonroad: Once this regulation is effective, manufacturers will be required to submit their in-use test results electronically to the Verify system.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Manufacturers should be able to submit required in-use test results to the Verify system electronically.

Inputs:	In-Use info
Outputs:	In-Use vehicle/engine info
	Mfr summary of modal (1HZ) test results
	Non-modal (bag) In-Use test results
	Submission archive copy
	Real-time modal (1HZ) In-Use test results
Mechanisms:	Mfr, CARB, Other external sources
Controls:	Submission guidelines and template; In-Use prog.rules

4.16.2 Validate External In-Use Information

Applicability: All regulated industries.

Validation rules will be used to determine whether the information submitted by the manufacturer is complete and accurate. This initial validation done by the computer will check to make sure that no required fields have been left blank and that the values of certain critical fields are of a valid type or length. Some errors will result in a submission being rejected while others will allow the submission to be processed but with an error flag. The manufacturer will receive a “receipt and error report” that confirms that CCD received their submission and that specifies any corrections and/or updates the manufacturer must make.

Inputs:	In-Use vehicle/engine info
	Mfr summary of modal (1HZ) test results
	Non-modal (bag) In-Use test results
	Updated In-Use info
	Real-time modal (1HZ) In-Use test results
Outputs:	Receipt/Error report
	Validated non-modal (bag) In-Use test results

	Validated In-Use vehicle/engine info
	Validated Mfr summary of modal (1HZ) test results
	Validated Mfr Real-time modal (1HZ) In-Use test results
Mechanisms:	CCD Computer
Controls:	Validation rules

4.16.2.1 **Process Modal (1 HZ) Test Results** (Heavy-Duty/Nonroad Only)

Applicability: Modal (second-by-second) NTE test results only.

Heavy-Duty/Nonroad: The system should (1) extract all the raw data necessary to calculate R_{pass}, Average Emissions for each regulated pollutant, number of vehicles remaining to be tested, cumulative number of vehicles tested so far, total number of NTE Events, number of 30-sec averages in each event, ambient conditions (temperature, dewpoint, baro) at the start and end of each NTE Event, NTE threshold, and any other parameter in 86.1912 that needs to be determined, (2) independently make all the calculations, then compare the results to the same figures provided by the manufacturer, (3) immediately send back a message to the submitter if any of the calculated values don't match what the submitter provided; the message should indicate that the submitter's data file was not accepted into the system, and, (4) send a message to the submitter indicating that their data file was "accepted" if all the calculated values match the manufacturer's values. The message should not imply that EPA has approved their data file, only that the system accepted it. In the past road tests were processed post-test to determine the maximum NOx NTE, location of 30-sec averages within the NTE zone, graphical interpretation of the truck's operation in the zone, etc. The new system should look at every cell in the spreadsheet and perform checks (to be determined). Plots (the NTE of course, and various parameter plots, to be determined) should be created. Basic information (the calculated 15% ESC speed, n-lo, n-hi, maximum HP, maximum torque, maximum NTE, etc.) should be summarized. This should all be done on the first "pass" of the data through the system.

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: Whatever data processing is necessary for the data files received from these industries should be performed. The look of each file, the type of data included, etc has to be considered in deciding what processing to do.

Inputs:	Validated Mfr real-time modal (1HZ) In-Use test results
	Validated EPA real-time modal (1 Hz) in-use test results
Outputs:	Modal (1HZ) test results summary report
Mechanisms:	CCD Computer
Controls:	Processing rules and summary report format

4.16.3 Submit In-Use Information Update

Applicability: All regulated industries.

The manufacturer (or other submitter of in-use data) will submit any necessary corrections or updates to their in-use information via the designated secure web site. They will be able to retrieve their previous submission, make needed updates, and resubmit the information to CCD's computer. The manufacturer would use the same method to submit data whether you were submitting new data or "updates." The new system should provide a means for identifying whether a data file is a partial file (i.e., data submitted previously is being changed, and only the fields which changed in the data file are being submitted). The system would review the information in the fields, find the original record, substitute the new data for the old, and send a message to the submitter indicating that the original record has been updated.

Inputs:	Receipt/Error report
	In-Use information
	Mfr initiated update
	Mfr completion of EF data submission indicator
	EPA request for updated Mfr In-Use information
Outputs:	Updated In-Use information
	Submission archive copy
Mechanisms:	Mfr/CARB/Others
Controls:	Info template and mod. Rules

4.17 Review In-Use Data

Applicability: All regulated industries.

4.17.1 Review External Test Results

Light-Duty: CCD compliance staff will evaluate IUVP data submitted by manufacturers (to determine if any action is required per the CAP 2000 regulations and/or if any additional EPA in-use compliance testing is necessary).

Heavy-Duty/Nonroad: CCD compliance staff will evaluate IUVP data submitted by manufacturers (to determine if any action is required per the regulations and/or if any additional EPA in-use compliance testing is necessary).

Small SI/MSI/MCI/Loc/RR/HDEvap/LSI/S-m: No process currently.

Inputs:	Compiled In-Use Summary report
	Validated Mfr real-time modal (1HZ) test results
Outputs:	TG/EFs flagged based on In-Use info
	Cert feedback

	DR feedback
	Mfr notification to redo a test
	EPA request for updated Mfr In-Use info
Mechanisms:	CCD Staff
Controls:	Review rules and Contact info

4.18 Data Security Requirements

The only in-use CBI information is the submitter and contact names. All in-use test results are not confidential and are part of the public record.