Fuel Efficient Tire Program
California Code of Regulations
Title 20. Public Utilities and Energy
Division 2, Chapter 4, Article 9,
Sections 1680 Et Seq:

Arnold Schwarzenegger, Governor
A Brief History of the American Solar Water Heating Industry

1890 to 1930's - the California Era
The first commercial solar water heater, named Climax, was introduced by Clarence Kemp in the 1890's. For a $25 investment, Californians could save about $9 a year in coal costs. It was a simple batch or ICS solar water heater that combined storage and collector in one box. The first thermosyphon systems with the tank on the roof and the collector below were invented, patented, and marketed in California in the 1920's by William Bailey as Day and Night solar systems. One of the largest commercial systems in California was installed by Death Valley Scotty for his resort in Death Valley.
Natural gas was discovered in Southern California and cheap natural gas, aggressively marketed by utility companies, ended the solar water heating market. The Day and Night patents were sold to a Florida company, owned by HM Carruthers in 1923, in a trade for an Oldsmobile and the solar hot water industry began in the coastal cities of central Florida and southern Florida. There wasn't a significant solar industry outside of Florida and California in the USA, because thermosyphon systems could not survive hard freezes.

1930's to 1973 - the South Florida Era
Floridians purchased or shipped to the Caribbean more than 100,000 thermosyphon water heaters between 1930 and 1954 when the industry collapsed. During the second World War (1942 to 1945) copper was reserved for the military and the industry was not able to make solar collectors. After the war, the Florida industry boomed again for about six years. Half of Miami homes had solar water heaters with over 80% of new homes having them installed. In the early 1950's electricity became cheap in Florida and utility companies gave away electric water heaters in an effort to eliminate the solar water heating industry. By 1973, there were only two full-time solar water heating companies left in the United States both operating out of Miami, Florida. They were WW Robbins Roofing and Beuthel Solar Water Heating.

1973 to 1986 - Oil Embargos and Carter Tax Credit Era
The first Arab-Israel War in 1973 resulted in the first oil embargo and a rise in gasoline prices. A few companies started experimenting with solar water heaters and designing systems but there were really no national solar collector manufacturers with widespread distribution until the late seventies. Many people, including myself, started making homemade solar water collectors in 1974, using the designs and research from the early 1950's assessment of the best designs by the University of Florida. Little practical information was available at the time, except research by Farrington Daniels at the University of Arizona and Dr. Eric Farber at the University of Florida. The federal government sponsored a few HUD Grants for domestic solar water heaters in the period just before the start of the 40% Federal tax rebate in 1979 by Jimmy Carter, following the second Arab-Israel War and oil embargo. The tax credit era, 1979 to 1986, started a nationwide boon in solar hot water systems that resulted in hundreds of manufacturers and thousands of contractors and distributors starting new businesses. The solar hot water industry was essentially destroyed in early 1986 by two major events and one ongoing professional problem. The Reagan administration refused all industry appeals to taper the tax rebate from 40% to 10% over a five to ten year period. It ended January 1, 1986. In February 1986, oil prices plunged from $35 a barrel to $9 to $12 a barrel as OPEC collapsed. Gas prices dropped at the pump to less than $1.00 a gallon - the public's perception was that the energy crisis was over. A nagging professional problem was constant with stories of "suede-shoes barracudas" or "tin men" taking advantage of the tax credit and selling ridiculously bad designs at exorbitant prices to take advantage of tax credit schemes. A lot of the early systems suffered freeze damage, had components failures, or were poorly designed and installed - this was giving the whole industry a bad name. Active solar air collector space heating systems were sold during this time whose parasitic power for blowers, etc. used more energy than they saved. The air systems cost more to operate than they saved. Many solar contractors were poorly trained in roofing. Homes often had roof leaks because the installers had no concept of how to properly install a system on a roof. Good solar contractors, trying to build an industry and pioneering homeowners were guinea pigs during this time for a menagerie of "good, bad, and ugly" systems.
Mass marketing and technological development of solar hot water designs basically started in 1977 with two designs: Closed loop glycol systems using a differential controller and AC pumps and Open loop systems using AC controllers and pumps with freeze protection, providing manual draindown, and freeze sensor(s) that cause the pump to run during a freeze. This was a total failure for three reasons: 1) utility companies often back out sections of the grid for hours during a hard freeze 2) sensors and controllers failed to operate 3) homeowners would forget to manually drain the systems, or the collectors were incorrectly mounted for drainage. The closed loop designs were almost all glycol closed loop systems using AC pumps and differential controls. To eliminate the need to replace glycol fluids every seven to ten years, a couple of manufacturers tried to use silicone or hydrocarbon oils. These systems took too much power, performed poorly, and had serious installation problems. They were eliminated from the marketplace before the tax credits expired. The first successful drainback system with heat exchange tank was marketed by State Industries, a large manufacturer of water heaters. It was expensive and complicated. It required three pipes going to the roof to facilitate water draining back into the reservoir that was part of the tank, and was taken off the market in 1980.

In 1979, Webb Farber and I, at US Solar Corp, designed, tested, and marketed the first residential drainback system that was simple and used only two 3/4" pipes (one feed and one return). This design revolutionized the use of low cost drainback systems. Gulf Thermal, Morningstar, and State Industries followed with copies of this system. Along with glycol systems, these were the most successful systems when correctly installed. Unfortunately, a lot of manufacturers did not understand the fundamentals of drainback systems designed by US Solar Corp. Most drainback systems (other than the companies that used the US Solar Corp design and installation procedures) were a failure in the field. Western and Midwest manufacturers of drainback systems produced terrible designs that gave gravity a bad name. At the same time the first successful drainback system was introduced by US Solar, the first mass marketed draindown valve was introduced by Sunspool. The Sunspool is a draindown open loop system that tries to drain pressurized household water out of the collector that is a part of the household's water plumbing. The Sunspool had massive failure rates for many reasons having to do with water quality, system design, and collector designs that would not drain. Drainback systems gave the whole industry a tremendous set-back due to widespread failure. There was a growing cadre of excellent solar thermal professionals during this time - "learning by doing" because there were no schools or colleges to teach contractors the solar contracting trade.

One major advancement in solar hot water systems during the time period from 1983 to the end of the tax credits in 1986 was made by Pulstar Corporation. Pulstar Corporation made one major and one minor advancement of the industry. First was the testing and matching of specifically designed solar electric modules for use with the Pulstarter as both a power and a control source for use with DC pumps. Wide spread sales by Pulstar led to solar electric manufacturers making P.V. modules for specific D.C. pumps. Pulstar Corp sold these controllers worldwide for open loop systems and closed loop glycol systems. These components replaced AC pumps and controls for open loop and pressurized closed loop glycol systems. Greg Peebles, Broward Hunter, John Ault and myself developed "Real World Testing" at Pulstar that actually measured the performance of all types of systems using DC pumps and P.V. modules. Pulstar did the only testing for thermal drip valves (like the Dole valve) under real world freezing conditions that established how these valves actually worked to protect solar systems. Two technology success stories developed in the early 1980's in active open loop and glycol systems using low power DC pumps and P.V. modules. Open loop systems for areas that experienced no freezes (Hawaii) or less than one freeze a year changed from AC pump and controls to DC pumps and P.V. modules. Closed loop glycol and drainback systems also reached the apogee of their development during this era. The original technology that started the industry (passive thermosyphon and batch (ICS) solar pre-heaters) had a mixed history during the 1977 to 1986 era. Thermosyphon systems had massive failures due to freezes when dealers tried to install them in areas that had more than two or three freezes a year. ICS or batch heaters that were properly designed proved successful in areas that had 20 to 60 freezes a year. However, the major market penetrations were with low quality, single glazed, over-priced, low performing ICS units. The only significant research was by C. Cromer at FSEC on system performance and thermal stratification in solar hot water systems.
In general, the two diagrams above of closed loop, glycol antifreeze on the left and the unpressurized drain-back systems were the only simple successful active closed loop designs of the 1977 to 1986 time period (see page 18). They use various heat exchanger tanks. By 1985 DC pumps and PV modules were used instead of differential controls and AC pumps on half of the glycol antifreeze systems marketed.

**Solar System Design**

Hot Water, Space Heating, Pool Heating

This diagram shows a solar system that will provide domestic hot water, space heating and swimming pool heating. The collectors are connected in parallel and are freeze protected by the double pumped heat exchanger antifreeze in the system. Domestic hot water is provided by circulation to a heat exchanger in a second tank. Space heating is provided by either baseboard convectors or a water coil in the air duct. Space heat is controlled by a standard thermostat. The pool is heated by another heat exchanger near the filter.
1986 to 2003 - Survival Era at Ground Zero

Few manufacturers of solar collectors survived the end of the tax credit era. Most national manufacturers of water tanks discontinued special solar tanks in the late 80’s, especially tanks with integrated heat exchangers. Over 95% of all solar dealers nationwide went out of business. Many states were left with only one of two contractors in the whole state. Over 90% of all collector manufacturers and distributors outside of Florida, Hawaii, California, and Arizona went out of business. Over 80% of the contractors and manufacturers in these states went out of business. Only one flat plate collector manufacturer in Florida and three in California were left by 1987, along with two ICS manufactures - one in Florida and one in California. While solar pool heating continues to grow and thrive in these areas, the hot water industry fell by over 90%. Most contractors in these states continue to service and repair solar hot water systems installed during the tax credit era. Solar pool heating became the major business for most of these contractors. A few also branched out into solar electric systems. Since 1986 new sales of solar water heaters has not kept up with systems being removed and discarded from the tax credit era. The hardcore professionals who survived the 1986 crash barely kept the industry alive. Environmentalists talked the talk, but failed to open their wallets to buy systems. One major technical advancement during this era was the El Sid DC pump by Ivan Labs. Evacuated Tube changed from direct transfer in the tubes to indirect transfer with heat pipes.

The Future

The public seems to be unaware of the impending end of the fossil fuel age and the need for a sustainable future. As of 2003 both politicians and the mass media are failing to educate the public of the hard choices ahead. Renewables are our only natural choice for the future. The economic price of having our military secure cheap oil from the Mideast is going up each year. Natural gas prices will dramatically increase between 2004 and 2009 because supply from the USA and Canada will not be able to meet the demand for the product. Between 2008 and 2015, the public will be hit with crushing gas and diesel prices as the oil energy will not be able to meet demand. All fuel prices will dramatically rise. Bright Lights: Home Power magazine is now featuring regular articles on solar water heating. Changing sunlight into electricity captures everyone's imagination and the publicity causes them to contact solar contractors. Once they focus on KWH's saved, it becomes clear that for every $20 to $30 spent on a PV system you can save the same amount for $1 spent on a solar hot water system. Solar contractors have learned how to present saving in KWH instead of BTU's. The pragmatic homeowner will then also buy a solar water heating system when he learns about its benefits. This is the solar industries' best opportunity to sell a meaningful product. The solar electric industry is currently viable, yet we have a long way to go to increase the cost effectiveness of all the components. Solar thermal systems both hot water and pool heating, however, have reached the apogee of design. They are at the theoretical maximum of cost effective efficiency. The greatest need is to disseminate information on simple proven designs that were perfected during and after the tax credit era. Hopefully, national tank manufacturers will start producing solar heat exchanger tanks again. The entire contracting industry of old time professionals are entirely against the return of tax credits of any type that are non-performance based. The industry needs low interest loans available to the public and the elimination of property taxes and sales tax on renewable energy equipment. We do not need non-performance-based larger credits or grants that bring "tin men" into the industry. We do need federal and state governments to show more enthusiasm for the technology - lending a friendly voice and face to the cause costs federal and state government and legislators almost nothing. All parties win - the consumer saves money and increase their property value, pollution discharge is reduced, massive number of new jobs are created and it improves the energy efficiency and independence of the county. A little visible and vocal support from the government and homebuilders for a viable thermal industry, that's been ignored, would help a lot. Especially when solar water heating is the cheapest and most easily affordable clean energy available to residential homeowners - AND has the greatest potential to reduce energy bills. We need real estate agents and homebuilders to educate themselves about the benefits of solar energy and make responsible decisions about energy and homebuilding.
ERRATUM
TO CALIFORNIA ENERGY COMMISSION
STAFF DRAFT REGULATIONS
FUEL EFFICIENT TIRE PROGRAM

JUNE 10, 2009
§1685. Database of Tires

(a) Creation of Database. The Executive Director shall maintain a database. The database shall consist of the following parts:

1) Passenger Tire Database

   i. “Active Database of In-Scope Passenger Tires.” The active database of all in-scope passenger tires shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684 and shall contain all of the data filed on all samples of tires as required by Section 1684(e).

   ii. “Active Database of Fuel Efficient Passenger Tires.” The active database of fuel efficient passenger tires shall contain, at least, a single row listing the information on each tire that is currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Fuel Efficient Tire pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

   iii. “Active Database of Passenger Tires That Are Not Fuel Efficient.” The active database of passenger Tires That Are Not Fuel Efficient shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Tires That Are Not Fuel Efficient pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

(2) Light Truck (LT) Tire Database

   i. “Active Database of In-Scope Light Truck (LT) Tires.” The active database of all in-scope LT tires shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684
and shall contain all of the data filed on all samples of tires as required by Section 1684(e).

ii. “Active Database of Fuel Efficient Light Truck (LT) Tires.” The active database of fuel efficient light truck (LT) tires shall contain, at least, a single row listing the information on each tire that is currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Fuel Efficient Tire pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

iii. “Active Database of Light Truck (LT) Tires That Are Not Fuel Efficient.” The active database of light truck (LT) Tires That Are Not Fuel Efficient shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Tires That Are Not Fuel Efficient pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

3) Exempt Tire Database

i. “Active Database of Exempt Passenger Tires.” The active database of exempt passenger tires shall contain, at least, information on all tires that have been determined by the Executive Director to be exempt from this Article by reason of Section 1680(b) Exemptions (1) or (2), and shall contain all of the information filed as required in Section 1684(f).

ii. “Active Database of Exempt Light Truck (LT) Tires.” The active database of exempt light truck (LT) tires shall contain, at least, information on all tires that have been determined by the Executive Director to be exempt from this Article by reason of Section 1680(b) Exemptions (1) or (2), and shall contain all of the information filed as required in Section 1684(f).
4) **Historical Tire Database**

   i. The historical tire database shall contain, at least, information on all tires that:

   a. are no longer sold or available for sale in California for which complete and accurate statements have been received pursuant to Section 1684(a) or
   
   b. have been removed from the active tire database pursuant to Sections 1684(i), or 1685(c).

(b) **Updating of Database Listings.**

1) The Executive Director shall update the database on a continuous basis upon receipt and approval of manufacturer statements.

2) By no later than January 15 of each year the Executive Director shall update the Active Database of Fuel Efficient Passenger Tires and the Active Database of Fuel Efficient Light Truck (LT) Tires to identify the tire that has the lowest Declared Fuel Efficiency Rating Value for all tires in its combined tire size designation and load index as well as all tires meeting the definition of Fuel Efficient Tire in that combined tire size designation and load index. If the Executive Director determines that a tire no longer meets the definition of Fuel Efficient Tire the Executive Director shall remove the tire from the Active Database of Fuel Efficient Passenger Tires or the Active Database of Fuel Efficient Light Truck (LT) Tires into the Active Database of Passenger Tires That Are Not Fuel Efficient or the Active Database of Light Truck (LT) Tires That Are Not Fuel Efficient and shall so inform the manufacturer.

(c) **Confirmation of Database Listings.**

The Executive Director may, by writing to the most recent address filed pursuant to Section 1684(c)(2), request a manufacturer of a tire listed in the database to confirm the validity, or to correct in compliance with this Article, all of the information in each of its database listings since the most recent filing by the manufacturer. If, within 30 days after the mailing, there is any tire for which the Executive Director has not received a reply from the manufacturer that confirms the validity of, or corrects, all of the information in the database listing, the Executive Director shall write via certified mail (registered mail to non-U.S. destinations), to the same address. If within 30 days of the latter mailing there is no such reply, the Executive Director shall move the tire into the Historical Tire Database, and it may be presumed that the tire is no longer sold or available for sale in California.
§1686. Compliance and Verification

(a) Submittal of Reports of Manufacturers’ Testing.

1) For any tire within the scope of Section 1680, the Executive Director may at any time request from a manufacturer a copy of the test report that describes the results of the testing that was performed pursuant to Section 1682 and that provides the basis for the information submitted under Section 1684. The request shall be sent to the address or e-mail address designated in Section 1684(c)(2). The manufacturer shall provide a copy of the applicable test report to the Executive Director within 14 days of the manufacturer’s receipt of the request.

2) If the Executive Director does not receive the test report within the required time, the Executive Director shall move the tire into the Historical Tire Database described in Section 1685(a)(4) and shall so inform the manufacturer.

3) If the test report indicates that the tire performance is greater than, or less than declared by the manufacturer pursuant to Section 1684(d)(1)(i), the Executive Director shall, after providing written notice by certified mail (registered mail to non-U.S. destinations) to the person designated in Section 1684(c)(3), modify the listing of the tire in the database to accurately reflect the test report and shall so inform the manufacturer.

(b) Inspection of Tires by the Executive Director.

1) The Executive Director may periodically inspect tires sold or available for sale in California, to determine whether or not they conform to Section 1684 and Section 1685.

2) Inspection of a tire shall consist of inspection of one tire.

i. If the inspection indicates that the tire conforms to Section 1684 and the information listed in the database of Section 1685, the matter shall be closed.

ii. If the inspection indicates that the tire does not conform to Section 1684 and/or the information listed in the database of Section 1685, the Commission shall undertake a proceeding pursuant to Section 25210 of the Public Resources Code and Title 20, California Code of Regulations, sections 1230 et seq. If the Commission confirms the Executive Director’s determination, then he or she shall move the tire into the Historical Tire Database and shall so inform the manufacturer.
(c) Testing of Tires by the Executive Director.

1) The Executive Director may periodically cause, at test facilities meeting the criteria of Section 1682, the testing of tires sold or offered for sale in California, to determine whether or not the tires are as reported and declared by the manufacturer pursuant to Section 1684. Testing shall be performed as follows:

i. The Executive Director shall cause tests on three units of tires with identical SKUs, using the applicable test procedure specified in Section 1682 and determine the mean plus two standard deviations of the RRF for the three tires. Upon completion of the test, the Executive Director shall make a determination as follows:

   a. Tire Is No Different Than Reported and Declared by Manufacturer. If the test result indicates that the tire is no different than reported and declared by the manufacturer pursuant to Section 1684, the matter shall be closed.

   b. Tire Is Different Than Reported and Declared by Manufacturer. If the test result indicates that the tire is different than reported and declared by the manufacturer pursuant to Section 1684, the Executive Director shall modify the information of the tire in the database to accurately reflect the Executive Director’s determination and shall so inform the manufacturer.

(d) Costs.

Except as otherwise provided in this Article, all costs of inspection and tests showing results as described in Section 1686(b)(2)(i) or Section 1686(c)(1)(i)(a) shall be borne by the Commission. All costs, including the acquisition cost of tires, for all other inspections and tests shall be paid by the manufacturer.
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ABSTRACT

Tires affect vehicle fuel economy mainly through rolling resistance. Differences in tire dimensions, design, materials, and construction features will cause tires to differ in rolling resistance. A 10 percent reduction in rolling resistance can improve consumer fuel efficiency by 1 to 2 percent for passenger and light truck vehicles. Consumers lack any meaningful information to distinguish fuel efficiency differences among tires. There is a public interest in consumers having access to information on the fuel efficiency of tires. The California Energy Commission Fuel Efficient Tire Regulations mandate manufacturers of passenger and light truck (LT) tires sold or available for sale in California to test and report the fuel efficiency of tires.

KEYWORDS

Tire, tyre, vehicle, transportation, rolling resistance, rolling resistance coefficient, fuel efficient, treadwear, traction, temperature, speed rating, load rating, hysteresis, tread, UTQG, SAE, J1269, J2452, SMERF, ISO28580, test, protocol, data analysis, correlation, statistics, replacement, original equipment, OE, Smithers, California Energy Commission, CEC, Bridgestone, Continental, Firestone, Goodyear, Pirelli, Michelin, Yokohama, Toyo, Kumho, General, Dunlop, NanKang, Mastercraft, Sumitomo, Sumic, Eldorado, Kelly Springfield, Hankook, Toyo, Minerva, Warrior, Hercules, Lee, Blue Streak, National, Falken, Fuzion, Delat, Starfire, BFGoodrich, PB Kelly, Uniroyal, Republic, Fate, American, Genadier, Roadmaster, Jetzon, Cavalier, Nitto, Mohawk, Star, GT Radial, Futura, Dayton
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>§1680</td>
<td>Scope</td>
<td>1</td>
</tr>
<tr>
<td>§1681</td>
<td>Definitions</td>
<td>2</td>
</tr>
<tr>
<td>§1682</td>
<td>Testing</td>
<td>5</td>
</tr>
<tr>
<td>§1683</td>
<td>Energy Performance Rating</td>
<td>6</td>
</tr>
<tr>
<td>§1684</td>
<td>Filing of Statement by Manufacturers</td>
<td>7</td>
</tr>
<tr>
<td>§1685</td>
<td>Database of Tires</td>
<td>14</td>
</tr>
<tr>
<td>§1686</td>
<td>Compliance and Verification</td>
<td>17</td>
</tr>
<tr>
<td>§1687</td>
<td>General Administrative Matters</td>
<td>19</td>
</tr>
</tbody>
</table>

(This Table of Contents is not part of the Regulations but is provided for the convenience of the reader.)
LIST OF TABLES

Table 1: Tire Fuel Efficiency Rating Values ................................................................. 6
Table 2: In-Scope Tires Identification, Performance, and Test Information Requirements ................................................................. 10
Table 3: Exempt Passenger and Light Truck (LT) Tires Information Requirements ....................................................................................... 11

(This List of Tables is not part of the Regulations but is provided for the convenience of the reader.)
§1680. Scope

(a) This Article applies to the manufacturers of the following types of new tires, if they are currently sold or are available for sale in California.

1) Passenger car tires.
2) Light-duty truck tires.

(b) Exemptions.

1) A tire or group of tires with the same SKU, plant, and year, for which the volume of tires produced or imported, is less than 15,000 annually.
2) A deep tread, winter-type snow tire.
3) A space-saver tire.
4) A temporary use spare tire.
5) A tire with a nominal rim diameter of 12 inches or less.
6) A motorcycle tire.
7) A tire manufactured specifically for use on an off-road motorized recreational vehicle.
§1681. Definitions

In this Article the following definitions apply:

**ASTM:** American Society for Testing and Materials.

**Commission:** the California Energy Commission.

**Database:** a structured collection of information.

“**Declared Fuel Efficiency Rating Value**” and “**The Energy Performance Rating**”: the mean RRF plus two standard deviations calculated from the test results of a sample of three tires with an identical SKU using the ISO 28580 test method.

**Deep Tread:** a tread depth of 18/32 inch or greater.

**DOT:** United States Department of Transportation.

**Executive Director:** the Executive Director of the California Energy Commission and his or her designated agent(s).

“**Fuel Efficient Tire**, “**Energy Efficient Tire**, “**Energy Saving Tire**, “**Fuel Saving Tire**, and “**Low Rolling Resistance Tire**”: a tire that has been determined by the Executive Director to have a “Declared Fuel Efficiency Rating Value” that complies with the value established in Table 1 for a “Fuel Efficient Tire”.

**High Flotation Light-Duty Truck Tire:** a tire which is dimensionally larger and operates at a lower inflation pressure than the tire it replaces to provide improved flotation in off-the-road service.

**ISO:** International Organization for Standardization.

**Light-Duty Truck Tire:** a tire with an “LT” in the size designation primarily intended for use on trucks or multipurpose passenger vehicles. Light-Duty Truck Tires include high flotation tires.

**Load Index (LI):** a numerical code associated with the maximum load a tire can carry at the speed indicated by its speed symbol under specified service conditions.

**Material Change:** a change to a tire of such a type or magnitude as to raise the reasonable expectation of a change in the declared fuel efficiency rating value listed in the database.

**Motorcycle:** a motorized vehicle designed to be driven astride a seat or saddle and designed to travel on not more than three wheels in contact with the ground.

**Motorcycle Tire:** a tire intended for use on motorcycles.

**Motor Vehicle:** a vehicle driven or drawn by mechanical power and manufactured primarily for driving on public streets, roads, and highways.
**Multipurpose Passenger Vehicle:** any motor vehicle designed to carry not more than twelve persons, which is constructed either on a truck chassis or with special features for occasional off-road operation.

**Nominal Rim Diameter:** the diameter of a wheel measured at the intersection of the bead seat and the flange.

**Original Equipment (OE) Tire:** a tire that is provided as original equipment on a new vehicle.

**Off-road Motorized Recreational Vehicle:** a multi-wheeled motorized vehicle designed to be driven astride a seat or saddle and designed for cross-country travel on or over land, sand, snow, ice, or other natural terrain.

**Off-road Motorized Recreational Vehicle Tire:** a tire intended for use on an off-road motorized recreational vehicle.

**Passenger Car:** any motor vehicle designed primarily for transportation of persons and having a design capacity of twelve persons or less.

**Passenger Car Tire:** a tire intended for use on passenger cars, multipurpose passenger vehicles, and trucks, that have a gross vehicle weight rating (GVWR) of 10,000 pounds or less.

**Plant:** the DOT tire manufacturer and plant code number.

**Rolling Resistance Force (RRF):** the loss of energy (or energy consumed) per unit of distance traveled. The unit conventionally used for the rolling resistance is the Newton meter per meter (N m/m). This is equivalent to a drag force in Newtons (N).

**Rolling Resistance Coefficient (RRC):** the ratio of the rolling resistance force, in Newtons, to the load on the tire in kNewton. This quantity is dimensionless.

**SAE:** Society of Automotive Engineers.

**Stock Keeping Unit (SKU):** a unique identifier for each distinct product that can be ordered from a supplier.

**Snow Tire:** a tire that attains a traction index ≥ 110 compared to the ASTM E-1136-93 Standard Reference Tire when using the snow traction test ASTM F-1805-06 Standard Test Method for Single Wheel Drive Traction in a Straight Line on Snow- and Ice-Covered Surfaces, and which is marked with an Alpine Symbol on at least one sidewall.

**Space-saver Tire:** a temporary use spare tire of reduced size for fitting in a confined space.

**Tires That Are Not Fuel Efficient:** a tire that has been determined by the Executive Director to have a “Declared Fuel Efficiency Rating Value” that complies with the value established in Table 1 for “Tires That Are Not Fuel Efficient”.

3
**Tire Size Designation:** the nominal section width, nominal aspect ratio, and rim diameter.

**Temporary Use Spare Tire:** a tire with a “T” in the size designation intended for use temporarily.

**Truck:** any motor vehicle which is designed primarily for purposes of transportation of property or special purpose equipment or is a derivative of such a vehicle.

**UTQG:** the Uniform Tire Quality Grading System of the United States Department of Transportation, National Highway Traffic Safety Administration.
§1682. Testing

(a) Testing Requirements. The manufacturer shall cause the testing of three tires with identical SKUs that are within the scope of Section 1680 and not exempt, using the ISO 28580 test method. The testing shall be at a test facility that the Executive Director determines:

1) has been accredited to comply with ISO 17025:2005(E);

2) has been certified to comply with the Measurement Machine Alignment procedure specified in the ISO 28580 test method;

3) agrees to and does interpret and apply the ISO 28580 test method precisely as written;

4) has, and keeps properly calibrated and maintained, all equipment, material, and facilities necessary to apply the ISO 28580 test method precisely as written;

5) agrees to and does maintain copies of all test reports, and provides any such report to the Executive Director on request; and

6) agrees to and does allow the Executive Director to witness any test or request.
§1683. Energy Performance Rating

(a) California Rating System Applicable to Sale. Section 1683 contains the rating system that is applicable as state law to tires within the scope of Section 1680 that are currently sold or are available for sale in California.

(b) Fuel Efficient Tire Rating. Each tire that has been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value consistent with the value set forth in Table 1 for Fuel Efficient Tires shall be designated Fuel Efficient Tire.

(c) Tires That Are Not Fuel Efficient Rating. Each tire that has been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value consistent with the value set forth in Table 1 for Tires That Are Not Fuel Efficient shall be designated Tires That Are Not Fuel Efficient.

Table 1: Tire Fuel Efficiency Rating Values

<table>
<thead>
<tr>
<th>TIRES</th>
<th>FUEL EFFICIENT TIRES</th>
<th>TIRES THAT ARE NOT FUEL EFFICIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rating Value</td>
<td>Rating Value</td>
</tr>
<tr>
<td>Passenger</td>
<td>Has a declared fuel efficiency rating value no higher than 1.15 times the lowest declared fuel efficiency rating value for all tires in its combined tire size designation and load index</td>
<td>Has a declared fuel efficiency rating value higher than 1.15 times the lowest declared fuel efficiency rating value for all tires in its combined tire size designation and load index</td>
</tr>
<tr>
<td>Light Truck (LT)</td>
<td>Has a declared fuel efficiency rating value no higher than 1.15 times the lowest declared fuel efficiency rating value for all tires in its combined tire size designation and load index</td>
<td>Has a declared fuel efficiency rating value higher than 1.15 times the lowest declared fuel efficiency rating value for all tires in its combined tire size designation and load index</td>
</tr>
</tbody>
</table>
§1684. Filing of Statement by Manufacturers

(a) Filing of Statements. Each manufacturer of passenger and light truck (LT) tires sold or available for sale in California shall file with the Executive Director a statement of information for each tire. The statement shall contain all of the information described in paragraphs (c) through (g) of this section and shall meet all of the requirements of paragraph (b) of this section and all other applicable requirements in this Article. The provisions of this Article are applicable to all submittals and filings made by a manufacturer.

(b) All statements filed pursuant to Article 9 shall comply with the following requirements.

1) Format and Categories.

Each statement shall be in a format (including but not limited to computer formats) and in categories specified by the Executive Director.

2) How Data Must Be Reported.

i. For any numerical value required that is produced by the ISO 28580 test method, the reported value shall be the value obtained by testing; unless different specific instructions are specified in the ISO 28580 test method.

ii. For any numerical value required that is produced by calculation from measured numerical results, the reported value shall be the value obtained by calculating.

3) When Statements are Required.

i. For all current tires within the scope of Section 1680, the manufacturers must submit the information required in paragraphs (c) through (g) of this section by no later than July 1, 2011.

ii. The all new and modified tires within the scope of Section 1680, the manufacturers must submit the information required in paragraphs (c) through (g) of this section prior to the tire being sold or available for sale in California.

4) Multiple Statements. A manufacturer may file statements for more than one tire in a single submittal to the Executive Director. If a submittal contains information statements for more than one tire, there shall be only one declaration statement for each submittal.
(c) Manufacturer Information

1) The name, address, telephone number, and, if available, fax number, URL (web site) address, and e-mail address of the manufacturer; provided, however, that if a parent entity is filing on behalf of a subsidiary entity, if a subsidiary entity is filing on behalf of a parent entity, or if an affiliate entity is filing on behalf of an affiliate entity, then each entity shall be clearly identified and the information shall be provided for both entities.

2) The name, address, telephone number, and, if available, fax number and e-mail address of the individual to contact concerning the statements pursuant to this section. There shall be only one individual to contact except that the individual may, during his or her absence, delegate his or her duties in this regard.

3) The name, address, telephone number, and, if available, fax number and e-mail address of the person signing the declaration pursuant to this section.

(d) Statement of Declaration

1) Each statement shall include a declaration, executed under penalty of perjury of the laws of California, that:

   i. all the information provided in the statement is true, complete, accurate, and in compliance with all applicable provisions of this Article.

2) If the manufacturer is a corporation, partnership, or other business entity, the declaration shall be signed by an individual authorized to make the declaration and file the statement on behalf of the business entity, and the declaration shall contain an affirmation that the individual signing is so authorized.

3) The declaration shall be submitted and maintained as follows:

   i. If the information is filed by a manufacturer, then either:

      a. the manufacturer shall file a wet-signed paper declaration with the Executive Director and the Executive Director shall keep the declaration;

      b. if the Executive Director has approved the use of a unique digital identifier for this purpose, the manufacturer shall include in the statement a declaration digitally signed under Government Code Section 16.5 and Title 2, California Code of Regulations, Section 22000 et seq.); or
c. the manufacturer shall execute a wet-signed paper declaration, electronically scan and copy the declaration, include the electronic copy of the declaration with the statement filed with the Executive Director, and keep the wet-signed paper declaration and provide it upon request to the Commission; and the Commission shall keep the electronic copy of the declaration.

(e) Statement of Identification, Performance, and Test Information for Tires within the Scope of Section 1680 and Not Exempt.

1) A statement that the tire has been tested in accordance with all applicable requirements of Section 1682.

2) The information set forth in Table 2.
<table>
<thead>
<tr>
<th><strong>Table 2: In-Scope Tires Identification, Performance, and Test Information Requirements</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tire Manufacturer Name</td>
</tr>
<tr>
<td><strong>From Tires:</strong></td>
</tr>
<tr>
<td>• Brand Name</td>
</tr>
<tr>
<td>• Model Name</td>
</tr>
<tr>
<td>• OEM Fitment (Yes/No)</td>
</tr>
<tr>
<td>• SKU Number</td>
</tr>
<tr>
<td>• DOT Tire Identification Number</td>
</tr>
<tr>
<td>• Tire Size Designation</td>
</tr>
<tr>
<td>• Special Feature: Runflat, Color Tread</td>
</tr>
<tr>
<td>• Tread and Sidewall Ply &amp; Material Identification</td>
</tr>
<tr>
<td>• Sidewall Lettering: Blackwall, Whitewall, Outlined White Letter, Outlined Black Letter</td>
</tr>
<tr>
<td>• Weight (lbs)</td>
</tr>
<tr>
<td>• Overall Diameter (in)</td>
</tr>
<tr>
<td>• Tread Depth (in)</td>
</tr>
<tr>
<td>• Sidewall Max Load (lbs)</td>
</tr>
<tr>
<td>• Sidewall Max Pressure (psi)</td>
</tr>
<tr>
<td>• Load Index (LI)</td>
</tr>
<tr>
<td>• Load Range</td>
</tr>
<tr>
<td>• Speed Rating</td>
</tr>
<tr>
<td>• UTQG Temperature Rating</td>
</tr>
<tr>
<td>• UTQG Traction Rating</td>
</tr>
<tr>
<td>• UTQG Treadwear Rating</td>
</tr>
<tr>
<td><strong>From ISO 28580 Testing:</strong></td>
</tr>
<tr>
<td>• Test Machine Identifier (from ISO28580 machine calibration)</td>
</tr>
<tr>
<td>• Test Date</td>
</tr>
<tr>
<td>• Test Method (Force, Torque, Deceleration, Power)</td>
</tr>
<tr>
<td>• Test Load (Newtons)</td>
</tr>
<tr>
<td>• Test Inflation Pressure (psi)</td>
</tr>
<tr>
<td>• Test Speed (mph)</td>
</tr>
<tr>
<td>• Rolling Resistance (Newtons)</td>
</tr>
<tr>
<td>• Rolling Resistance Coefficient</td>
</tr>
<tr>
<td>• Declared Fuel Efficiency Rating Value for tires with identical SKUs</td>
</tr>
</tbody>
</table>
(f) Statement of Information for Passenger and Light Truck (LT) Tires Claimed by the Manufacturer to be Exempt from this Article by Reason of Section 1680 (b) Exemption (1) or (2).

1) Claim and Tire Identification Information

   i. A statement that the tire is exempt by reason of Section 1680 (b) Exemption (1) or (2).

   ii. The information set forth in Table 3.

Table 3: Exempt Passenger and Light Truck (LT) Tires Information Requirements

<table>
<thead>
<tr>
<th>Exemption 1 Tires</th>
<th>Exemption 2 Tires</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tire Manufacturer Name</td>
<td>• Tire Manufacturer Name</td>
</tr>
<tr>
<td>• Brand Name</td>
<td>• Brand Name</td>
</tr>
<tr>
<td>• Model Name</td>
<td>• Model Name</td>
</tr>
<tr>
<td>• SKU Number</td>
<td>• SKU Number</td>
</tr>
<tr>
<td>• Tire Size Designation</td>
<td>• Tire Size Designation</td>
</tr>
<tr>
<td>• DOT Manufacturer and Plant Code Number</td>
<td>• Thread Depth (X/32 inches)</td>
</tr>
<tr>
<td>• Number of tires imported or produced during claimed year</td>
<td></td>
</tr>
<tr>
<td>• Claimed year</td>
<td></td>
</tr>
</tbody>
</table>

(g) Statement of Information for Modified Tires and Tires Which Have Ceased Being Sold or Available for Sale In California.

1) If any of the information changes for a tire listed in the Active Database of In-Scope Tires, the manufacturer shall file a statement containing the identifiers and the modified information for all changes for the tire. Upon receipt of such a statement, the Executive Director shall review the statement pursuant to Section 1684(h).

2) If a material change is made to a tire listed in the Active Database of In-Scope Tires, the manufacturer shall cause the testing of three tires of identical SKUs using the ISO 28580 test method and shall file a statement containing the identifiers and the modified information for all the characteristics that have changed for the tire. Upon receipt of such a statement, the Executive Director shall review the statement pursuant to Section 1684(h).
3) If any of the information changes for a tire listed in the Exempt Tire Database, the manufacturer shall file a statement containing the identifiers and the modified information for all changes for the tire. Upon receipt of such a statement, the Executive Director shall review the statement pursuant to Section 1684(h).

   i. **Tire Continues to Meet Exemption Criteria.** If the Executive Director determines that the changes reported for the tire still meet the criteria for exemption, the Executive Director shall modify the listing of the tire in the Exempt Tire Database to reflect the changed information.

   ii. **Tire No Longer Meets Exemption Criteria.** If the Executive Director determines that the changes reported for the tire no longer meet the criteria for exemption, the Executive Director shall immediately remove the tire from the Exempt Tire Database into the Historical Tire Database and shall so inform that the manufacturer must immediately comply with the requirements of this section for the tire.

4) If any tire listed in the Active Database of In-Scope Tires or Exempt Tire Database has ceased being sold or available for sale in California the manufacturer shall file a statement so stating. Upon receipt of such a statement, the Executive Director shall review the statement pursuant to Section 1684(h). If the statement is complete, accurate, and in compliance with all applicable provisions of this Article, the Executive Director shall move the tire into the Historical Tire Database.

(h) **Review of Statements by the Executive Director.**

1) **Determination.** The Executive Director shall determine whether a statement is complete, accurate, and in compliance with all applicable provisions of this Article.

2) **Informing Manufacturer of Determination.**

   i. The Executive Director shall inform the manufacturer of the determination within 21 calendar days after receipt of the electronic file by the Executive Director.

   ii. The Executive Director's determination shall be sent to the manufacturer electronically.
3) Nature of Determination.

i. **Statement is Incomplete.** If the Executive Director determines that a statement is not complete, or that the statement does not contain enough information to determine whether it is accurate, the Executive Director shall return the statement to the manufacturer with an explanation of its defects and a request for any necessary additional information. The manufacturer shall refile the statement with all information requested by the Executive Director and with any other information it wants to file. The Executive Director shall review the refiled statement according to the time limits in Section 1684(h)(2).

ii. **Statement is Inaccurate.** If the Executive Director determines that the statement is inaccurate, the Executive Director shall reject the statement and return it to the manufacturer with an explanation of its defects. The manufacturer may submit a revised statement at any time.

iii. **Statement is Complete and Accurate.** If the Executive Director determines that the statement is complete and accurate, the Executive Director shall immediately include the tire(s) in the appropriate database and shall so inform the manufacturer.

(i) **Assessment of Completeness, Accuracy, and Compliance of Manufacturer Statements.**

Notwithstanding any other provision of these regulations, the Executive Director may at any time challenge the completeness, accuracy, and compliance with the requirements of this Article, of any statement or confirmation filed pursuant to this Section. If the statement is incomplete or inaccurate, or if the Executive Director determines that the statement otherwise fails to comply with any of the requirements of this Article, then he or she shall, ten working days after providing written notice by certified mail (registered mail to non-U.S. destinations) to the person designated in Section 1684(c)(3), and move the tire into the Historical Tire Database described in Section 1685(a)(4).
§1685. Database of Tires

(a) Creation of Database. The Executive Director shall maintain a database. The database shall consist of the following parts:

1) Passenger Tire Database

i. “Active Database of In-Scope Passenger Tires.” The active database of all in-scope passenger tires shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684 and shall contain all of the data filed on all samples of tires as required by Section 1684(e).

ii. “Active Database of Fuel Efficient Passenger Tires.” The active database of declared fuel efficient passenger tires shall contain, at least, a single row listing the information on each tire that is currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Fuel Efficient Tire pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

iii. “Active Database of Passenger Tires That Are Not Fuel Efficient.” The active database of inefficient passenger tires shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Tires That Are Not Fuel Efficient pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

(2) Light Truck (LT) Tire Database

i. “Active Database of In-Scope Light Truck (LT) Tires.” The active database of all in-scope LT tires shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684
and shall contain all of the data filed on all samples of tires as required by Section 1684(e).

ii. “Active Database of Fuel Efficient Light Truck (LT) Tires.” The active database of declared fuel efficient light truck (LT) tires shall contain, at least, a single row listing the information on each tire that is currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Fuel Efficient Tire pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

iii. “Active Database of Light Truck (LT) Tires That Are Not Fuel Efficient.” The active database of light truck (LT) tires shall contain, at least, information on all tires that are currently in production, for which complete and accurate statements have been received pursuant to Section 1684, that have been determined by the Executive Director to have a Declared Fuel Efficiency Rating Value that complies with the value established for the rating of Tires That Are Not Fuel Efficient pursuant to Section 1683, and that have not been removed from the database pursuant to Sections 1684(i), or 1685(c).

3) Exempt Tire Database

i. “Active Database of Exempt Passenger Tires.” The active database of exempt passenger tires shall contain, at least, information on all tires that have been determined by the Executive Director to be exempt from this Article by reason of Section 1680(b) Exemptions (1) or (2), and shall contain all of the information filed as required in Section 1684(f).

ii. “Active Database of Exempt Light Truck (LT) Tires.” The active database of exempt light truck (LT) tires shall contain, at least, information on all tires that have been determined by the Executive Director to be exempt from this Article by reason of Section 1680(b) Exemptions (1) or (2), and shall contain all of the information filed as required in Section 1684(f).
4) Historical Tire Database

i. The historical tire database shall contain, at least, information on all tires that:

a. are no longer in production, for which complete and accurate statements have been received pursuant to Section 1684(a) or
or
b. have been removed from the active tire database pursuant to Sections 1684(i), or 1685(c).

(b) Updating of Database Listings.

1) The Executive Director shall update the database on a continuous basis upon receipt and approval of manufacturer statements.

2) By no later than January 15 of each year the Executive Director shall update the Active Database of Fuel Efficient Passenger Tires and the Active Database of Fuel Efficient Light Truck (LT) Tires to identify the tire that has the lowest Declared Fuel Efficiency Rating Value for all tires in its combined tire size designation and load index as well as all tires meeting the definition of Fuel Efficient Tire in that combined tire size designation and load index. If the Executive Director determines that a tire no longer meets the definition of Fuel Efficient Tire the Executive Director shall remove the tire from the Active Database of Fuel Efficient Passenger Tires or the Active Database of Fuel Efficient Light Truck (LT) Tires into the Active Database of Passenger Tires That Are Not Fuel Efficient or the Active Database of Light Truck (LT) Tires That Are Not Fuel Efficient and shall so inform that the manufacturer.

(c) Confirmation of Database Listings.

The Executive Director may, by writing to the most recent address filed pursuant to Section 1684(c)(2), request a manufacturer of a tire listed in the database to confirm the validity, or to correct in compliance with this Article, all of the information in each of its database listings since the most recent filing by the manufacturer. If, within 30 days after the mailing, there is any tire for which the Executive Director has not received a reply from the manufacturer that confirms the validity of, or corrects, all of the information in the database listing, the Executive Director shall write via certified mail (registered mail to non-U.S. destinations), to the same address. If within 30 days of the latter mailing there is no such reply, the Executive Director shall move the tire into the Historical Tire Database, and it may be presumed that the tire is no longer in production.
§1686. Compliance and Verification

(a) Submittal of Reports of Manufacturers’ Testing.

1) For any tire within the scope of Section 1680, the Executive Director may at any time request from a manufacturer a copy of the test report that describes the results of the testing that was performed pursuant to Section 1682 and that provides the basis for the information submitted under Section 1684. The request shall be sent to the address or e-mail address designated in Section 1684(c)(2). The manufacturer shall provide a copy of the applicable test report to the Executive Director within 14 days of the manufacturer’s receipt of the request.

2) If the Executive Director does not receive the test report within the required time, the Executive Director shall move the tire into the Historical Tire Database described in Section 1685(a)(4).

3) If the test report indicates that the tire performance is greater than, or less than declared by the manufacturer pursuant to Section 1684(d)(1)(i), the Executive Director shall, after providing written notice by certified mail (registered mail to non-U.S. destinations) to the person designated in Section 1684(c)(3), modify the listing of the tire in the database to accurately reflect the test report.

(b) Inspection of Tires by the Executive Director.

1) The Executive Director may periodically inspect tires sold or offered for sale in California, to determine whether or not they conform to Section 1684 and Section 1685.

2) Inspection of a tire shall consist of inspection of one tire.

i. If the inspection indicates that the tire conforms to Section 1684 and the information listed in the database of Section 1685, the matter shall be closed.

ii. If the inspection indicates that the tire does not conform to Section 1684 and/or the information listed in the database of Section 1685, the Commission shall undertake a proceeding pursuant to Section 25210 of the Public Resources Code and Title 20, California Code of Regulations, sections 1230 et seq. If the Commission confirms the Executive Director’s determination, then he or she shall move the tire into the Historical Tire Database.
(c) **Testing of Tires by the Executive Director.**

1)   The Executive Director may periodically cause, at test facilities meeting the criteria of Section 1682, the testing of tires sold or offered for sale in California, to determine whether or not the tires are as reported and declared by the manufacturer pursuant to Section 1684. Testing shall be performed as follows:

   i.   The Executive Director shall cause tests on three units of tires with identical SKUs, using the applicable test procedure specified in Section 1682 and determine the mean plus two standard deviations of the RRF for the three tires. Upon completion of the test, the Executive Director shall make a determination as follows:

      a. **Tire Is No Different Than Reported and Declared by Manufacturer.** If the test result indicates that the tire is no different than reported and declared by the manufacturer pursuant to Section 1684, the matter shall be closed.

      b. **Tire Is Different Than Reported and Declared by Manufacturer.** If the test result indicates that the tire is different than reported and declared by the manufacturer pursuant to Section 1684, the Executive Director shall inform the manufacturer of the results and shall modify the information of the tire in the database to accurately reflect the Executive Director’s determination.

(d) **Costs.**

Except as otherwise provided in this Article, all costs of inspection and tests showing results as described in Section 1686(b)(2)(i) or Section 1686(c)(1)(i)(a) shall be borne by the Commission. All costs, including the acquisition cost of tires, for all other inspections and tests shall be paid by the manufacturer.
§1687. General Administrative Matters

(a) Forms and Formats Specified by Executive Director.

The Executive Director may specify, and require the use of, any particular form or format for the submittal of any data, reports, or other information required by this Article, including but not limited to computer programs or formats.

(b) Electronic Filing.

1) Unless otherwise stated in this Article, the statements and other submittals required or allowed by this Article shall be filed electronically so that:

i. the electronic filing uses a format and characteristics, including without limitation appropriate formatting, that are specified by the Executive Director;

ii. within three days of the electronic filing being made, an exact paper copy of all declarations required by Section 1684(d) is executed by a person authorized under the appropriate section to execute it;

iii. for two years from the date of filing the person making the filing keeps the exact paper copies required by paragraph (ii) immediately above and provides those copies to the Executive Director upon 10 days written request.

2) Any electronic filing constitutes a representation by the person making the filing that:

i. all applicable requirements of this Article have been met;

ii. the person will electronically acknowledge receipt of all electronic communications concerning the filing from the Executive Director to the person;

iii. all electronic communications concerning the filing from the Executive Director to the person shall be deemed received by the person upon notification to the Executive Director, by the computer from which the Executive Director communication has been sent, that the communication has been sent; and

iv. all electronic communications concerning the filing from the person to the Executive Director shall be deemed received by the Executive Director only upon actual receipt.
3) At any time the Executive Director may forbid electronic filings by any person and may remove affected tire models from the database, if he or she finds that an applicable requirement of this Article is not being met.

(c) Retention of Records

1) Manufacturers shall retain all data, forms, information, and all other records required by this Article concerning each tire:

   i. for at least 2 years after the manufacturer informs the Executive Director, in writing, of the tire has ceased being sold or available for sale in California; and

   ii. in a manner allowing ready access by the Executive Director on request.

2) The Executive Director shall retain all data, forms, information, and all other records required by this Article concerning each tire for at least 10 years after the record is initially filed or reconfirmed.

(d) Executive Director Determinations.

Whenever this Article refers to a finding, conclusion, or other determination by the Executive Director, any person seeking such a determination shall submit to the Executive Director a written request. Within 10 days of receipt of a request, the Executive Director shall either find the request is complete and so inform the applicant, or return the request to the applicant with a statement of what additional information is necessary to make it complete. Within 45 days of receipt of a complete request, the Executive Director shall make a determination, which shall be within the discretion of the Executive Director acting on the basis of the entire record, which shall be assembled and made publicly available by the Executive Director. Within 10 days of a determination, whether made in response to a request or made on the Executive Director’s own initiative, any affected person, including but not limited to the person, if any, who made a request for the determination, may appeal the determination to the Commission in writing. At the same time that the appeal is filed, the appellant shall file all the evidence the appellant wishes the Commission to consider. The Commission Staff and any affected person shall file all the evidence they wish the Commission to consider within 20 days after the appeal is filed. The Commission shall hear and decide the appeal at the next regularly-scheduled business meeting that is at least 30 days after the appeal is filed. At the hearing the Commission may require the filed evidence to be presented under oath and may allow questions and cross-examination from participants.