STATE OF CALIFORNIA

PETE WILSON, Governor

AIR RESOURCES BOARD
2020 L STREET
P.O. BOX 2815
SACRAMENTO, CA 95812

August 12, 1994

Donald L. Leininger
Technical Liaison Manager
OPW Fueling Components
Post Office Box 405003
Cincinnati, Ohio 45240-5003

#94-16

Dear Mr. Leininger:

Approval of the OPW 111VX and 211VX Nozzles

You requested California Air Resources Board (CARB) approval of the OPW Model 111VX and 211VX balance type vapor recovery nozzles with integral liquid evacuation devices.

Both the Model 111VX and 211VX nozzles are similar to the CARB certified OPW Model 111V and 211V nozzles. The Model 111V is certified and listed in Executive Order G-70-52-AM. The Model 211V nozzle was certified on September 18, 1992, and is listed in Executive Order G-70-36-AD. The differences between the VX nozzles (111VX and 211VX) and the V nozzles (111V and 211V) is the addition of an integral liquid evacuation device in the VX nozzles. Otherwise the two types of nozzles are identical. Also the differences between the 111 and 211 nozzles are that the 211 models have a slightly shorter spout than the 111 nozzles.

Both the 111VX and 211VX nozzles incorporate an independent pressure shut off device to shut off the nozzle should a back pressure develop in the vapor return line. The nozzle spout is surrounded by a compressible bellows assembly which is fitted with a soft seal. This seal fits against the vehicle fillpipe opening creating a vapor seal. An anchor ring or spring on the spout latches into the fillpipe insuring an adequately compressed bellows assembly. Gasoline vapors, displaced in filling the vehicle fuel tank, flow through the bellows assembly, through the nozzle vapor passage, and then on to the vapor return hose.

Compressing the bellows assembly opens the vapor return line's vapor valve which seals the return line when the nozzle is not in use. Automatic closure of the fuel poppet valve occurs when a vacuum diaphragm mechanism releases the plunger of the valve control lever, allowing the plunger to drop. This in return, allows the spring loaded poppet valve to close. This closing shock also releases the hold open clip if the nozzle is equipped with a hold open latch. The following three conditions will cause automatic closure:

1. Liquid fill of the vehicle fuel tank or spitback.
2. Greater than 10 inches water column back pressure in the vapor return line.
3. Insufficient compression of the spout bellows assembly. This constitutes the "No Seal - No Flow" feature of the nozzle.

The 111VX and 211VX nozzles are to be installed and used with vapor recovery systems where working pressures do not exceed 50 pounds per square inch gage pressure. They are intended for use with a swivel connector or hose assembly having a male coaxial type connection. The manufacturer's trademark "OPW" shall be molded on the lever guard followed by the heat stamped model designation. The nozzle shall also be labeled with a statement which specifies the nozzle is for use with a hose assembly or swivel connector with coaxial type connection. The statement "Warning do not top off after automatic shutoff. Spillage may occur, resulting in a hazardous condition", shall be silk screened on the vinyl fender guard. The Underwriters Laboratory Label or California State Fire Marshal's Seal shall be affixed to the body of the nozzle handle on a recognized labeling system.

As required by the Air Resources Board certification procedures, you requested the approval of the Division of Occupational Safety and Health, the Office of the State Fire Marshal and the Department of Food and Agriculture, Division of Measurement Standards. The necessary approvals have been obtained from these agencies.

I find that the use of the 111VX and 211VX nozzles, when installed in accordance with the manufacturer's instructions and the conditions listed above, will not adversely affect the performance of vapor recovery systems on which they are installed. Therefore, the OPW Fueling Components Model 111VX and 211VX series balance type vapor recovery nozzles with integral liquid evacuation devices are certified for use with CARB certified Phase II balance type vapor recovery systems.

Should you have any questions or need further assistance, please contact Mr. Basharat Iqbal at (916) 324-7343 or Ms. Laura Sullivan McKinney at (916) 327-1525.

Sincerely,

James J. Morgester, Chief
Compliance Division

cc: Mr. Kenneth Kunaniec, Chairman
CAPCOA Vapor Recovery Committee

Mr. Gary Hunter, Manager
CARB Compliance Assistance Section