



Winston H. Hickox
Agency Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman

1001 I Street • P.O. Box 2815 • Sacramento, California 95812 • www.arb.ca.gov



Gray Davis
Governor

December 3, 2002

#02-14

Mr. William Nakahara
BP/ARCO
4 Centerpointe Drive
La Palma, California 90623

Dear Mr. Nakahara:

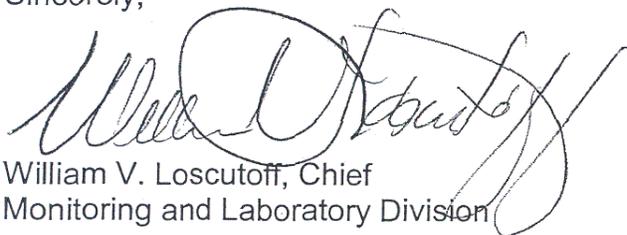
Thank you for your letter requesting California Air Resources Board (ARB) approval of the Flexible Connector (see Figure 1) in lieu of Swing Joints (see Figure 2). In addition to your letter, you provided a flexible connector and swing joint for testing. You have also provided evidence from fiberglass manufacturers recommendations against using swing joints.

Flexible connectors in general are constructed of stainless steel with an inner shell of Teflon or stainless steel. The flexible connector working pressures range from 50 to 150 psi, which far exceeds the maximum Pressure/Vacuum vent valve pressure setting of 3 inches of water column.

Based on our pressure drop testing, to compare the performance of the swing joint and flexible connector, we find the use of the Flexible Connectors, when installed in accordance with the manufacturer's recommended instructions, will not adversely affect the vapor recovery systems on which they are installed. The Flexible Connector is found to provide equivalent performance as Swing Joints. Therefore, Flexible Connectors are approved for use with vapor recovery systems.

If you have questions or need further information, please contact Oscar Lopez at (916) 323-1161 or via email at olopez@arb.ca.gov or Laura McKinney at (916) 327-0900 or via email at lmckinne@arb.ca.gov.

Sincerely,



William V. Loscutoff, Chief
Monitoring and Laboratory Division

cc: See Next Page

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Website: <http://www.arb.ca.gov>.

California Environmental Protection Agency

Mr. William Nakahara
December 3, 2002
Page 2

cc: Mr. Ben Shaw
South Coast Air Quality Management District

Theresa Sewell
CAPCOA VR Committee Chair



Figure 1: Flexible Connector



Figure 2: Swing Joint