

Don K. Mukai

MECHANICAL ENGINEER

1841 Paloma St. Pasadena, CA 91104

323-888-4136

December 23, 2010

Mrs. Paola Recendez

S. Bravo Systems, Inc.

2929 Vail Ave.

Commerce, CA 90040

Re: Specification approved by a state registered professional engineer
CCR Title 23, Division 3, Chapter 16, Article 3, Section 2631(d)

This letter is for an engineering specification review and approval of a secondary containment system component which is not an integral part of primary containment for an underground fuel tank storage system in California. The authority for this approval comes from the California Code of Regulations (CCR) Title 23, Division 3, Chapter 16, Article 3, Section 2631(d).

I have examined and reviewed the following specifications for both the Bravo **FF-Series** fiberglass entry fittings and the **FR-Series** fiberglass reducer:

- 1) UL Certifications Directory MH26018 for Vipel F-764 and F-774 resins
- 2) AOC Vipel Product Selection Guide
- 3) AOC Vipel Corrosion Resistance Guide
- 4) Bravo Systems datasheet FF-Series-SW-10D
- 5) Bravo Systems datasheet FR-3x2-Series10A
- 6) Bravo Systems Installation Manual ii-FF-SERIES-10B
- 7) Bravo Systems Installation Manual ii-FF-SERIES-LCX-10B
- 8) Bravo Systems Installation Manual ii-FF-CONDUIT-10A
- 9) Bravo Systems Third Party document 3RP-F-Series
- 10) Bravo Systems UL Approval document CUL-FSeries
- 11) Smith Bulletin D4025 December 15, 2007
- 12) Smith Bulletin D4010 April 15, 2007
- 13) Smith Bulletin B2102 May 1, 2006
- 14) Ameron PSX-20 Adhesive Kit - Bondstrand Product Data FP698B (10/04)
- 15) Bravo Adhesive Epoxy Kit, Product Data Sheet

The FF-Series entry fitting system provides a bonded fiberglass solution for Smith (NOV) and Ameron fiberglass pipe and steel conduit for a fiberglass containment sump for the purpose of making a permanent seal. This product maintains the integrity of the containment sump wall by bonding the wall to the fiberglass pipe or conduit that passes through it by means of an FF-Series fiberglass entry fitting.

The FR-Series fiberglass reducer provides a bonded fiberglass solution for Smith (NOV) and Ameron fiberglass pipe for initial or retrofit installations for the purpose of making a permanent seal between piping components.

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For the purposes of this review, I have:

- 1) Reviewed the construction and installation procedures for the single wall FF-Series fiberglass entry fittings for conduit. Models reviewed:
A) F-07-FF, F-07-FFRR, F-10-FF, F-10-FFRR, F-07-FF-RND, F-07-FFRR-RND, F-10-FF-RND, F-10-FFRR-RND
- 2) Reviewed the construction and installation procedures for the single wall FF-Series fiberglass entry fittings for fiberglass pipe. Models reviewed:
A) F-20-FF, F-30-FF, F-40-FF, F-20-FF-RND, F-30-FF-RND, F-40-FF-RND, F-20-FF-LCX, F-30-FF-LCX, F-40-FF-LCX, F-20-FF-LCX-RND, F-30-FF-LCX-RND
- 3) Reviewed the construction and installation procedures for the single wall FR-Series fiberglass reducing split coupler for fiberglass pipe. Models reviewed:
A) FR-3X2, FR-3X2-T, FR-4X3, FR-4X3-T
- 4) Reviewed materials used to construct the secondary containment system component for sufficient thickness, density and corrosion resistance to prevent structural weakening or damage to the secondary containment system component as a result of contact with hazardous substances contained in California fuels.

Upon review of the manufacturing procedures, the selection and employment of the materials used in the production of Bravo Systems FF and FR-Series product lines and the manufacturer's installation guidelines, it is my conclusion that sound design and engineering of this product for use with fiberglass single wall containment structures and aforementioned pipe types will meet or exceed the secondary containment requirements as concerns corrosion resistance and material compatibility of all motor vehicle fuels, alternative fuels or their additives currently used by petroleum marketers today. I approve the above engineering specifications for the following Bravo FF and FR-Series fittings:

FF-Series SingleWall Fiberglass Entry Fittings for flat sump walls:

For Conduit: F-07-FF, F-07-FFRR, F-10-FF, F-10-FFRR
For Pipe: F-20-FF, F-30-FF, F-40-FF
For LCX Pipe: F-20-FF-LCX, F-30-FF-LCX, F-40-FF-LCX

FF-Series SingleWall Fiberglass Entry Fittings for round sump walls:

For Conduit: F-07-FF-RND, F-07-FFRR-RND, F-10-FF-RND, F-10-FFRR-RND
For Pipe: F-20-FF-RND, F-30-FF-RND, F-40-FF-RND
For LCX Pipe: F-20-FF-LCX-RND, F-30-FF-LCX-RND

FR-Series SingleWall Fiberglass Split Fiberglass Reducer:

For Pipe: FR-3x2, FR-4x3, FR-3x2-T, FR-4x3-T
For LCX Pipe: FR-22-LCX, FR-33-LCX, FR-44-LCX

Please contact me with any questions at 323-888-4136.

Sincerely,


Don K. Mukai
Mechanical Engineer

