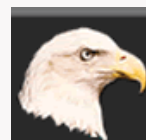


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# Pemex Fuel Evaporation Control Savings

## Synopsis:

In 1992, Superior Products International was first engaged to control fuel evaporation for Pemex Oil and used the Diamond Shamrock study to achieve the savings from using SUPER THERM to stop the evaporation, which was projected to be \$30 million.

When studying the project, it was found that the exterior maintenance for the storage tanks was blasting and recoating every 4.5 years.

After analysis, attention was quickly refocused to how much of this maintenance expense could be saved by using the RUST GRIP and SUPER THERM combination.

Not only does the Rust Grip and Super Therm system provide superior insulation and corrosion control, it replaces the standard sandblast, three coat and insulation system. It actually reduces the normal five-step process down to only two -- WITHOUT THE SANDBLAST.

By using the RUST GRIP/ SUPER THERM SYSTEM, the service life of the Pemex tanks was extended from 4.5 to 10-15 years. It was then calculated that the savings would be \$300 million over the same 10-year period. When SPI learned this, the evaporation problem took a secondary position due to the 10 fold savings produced by the elimination of one and possibly two maintenance procedures on the tank field. It was obvious that extending the maintenance schedule could produce massive combined savings over just addressing the evaporation losses at the time.

In comparison to solving the original fuel evaporation problem, extending the maintenance schedule produced spectacular bottom line savings. Again, this is another example of SPI products having an enhanced range of advantages, beyond customer expectations.

## Based Upon the 1992 Diamond Shamrock Computer Analysis

### Comparison Tank Model:

- ◆ 80,000 barrel tank
- ◆ Floating top
- ◆ Very light rust
- ◆ Average temperature 80F
- ◆ Painted aluminum

### Super Therm Tank Model:

- ◆ 80,000 barrel tank
- ◆ Floating top
- ◆ Light to medium rust
- ◆ Average temperature 80F
- ◆ Rust Grip/Super Therm



### Scenario of Cost Savings With Super Therm:

- ◆ Loss of product from the tank each year by evaporation is 850 - 1100 gallons
- ◆ Proven effectiveness of Super Therm over a white painted tank is 70%
- ◆ Using the Super Therm coating the savings is approximately 600 - 750 gallons per year
- ◆ Using an average of 3,000 tanks in the field, would suggest a savings of \$1.8 - 2.25 million per year.
- ◆ The conservative life of Super Therm in this application is 10 years, which provides a 10-year savings of \$18 - \$22.5 million in lost product.



### Scenario of Labor Cost Savings Using Rust Grip and Super Therm On An 80,000 Barrel Tank.

- ◆ Tanks are repainted every 4 - 5 years.
- ◆ Cost of labor and materials to repaint a tank is approximately \$65,000.
- ◆ Using Super Therm will effectively extend the repainting life of a tank by 2 - 2.5 times the normal interval, or 10 years.
- ◆ Labor and materials savings will be 1 - 1.5 times over a 10-year period.
- ◆ Dollar savings will be approximately \$65,000 to \$97,000 per tank over a 10-year period.
- ◆ Based upon 3,000 tanks in the field, the 10-year total savings will range from \$195,000,000 to \$300,000,000.
- ◆ The combined 10-year savings impact of using Super Therm and Rust Grip on tanks to prevent evaporation and deterioration would be between \$213,000,000 and \$322,500,000
- ◆ Based on the savings from evaporation and extending the time of repainting, the payback is 6.2 years minimum, or a 38% return on investment.

## SPI CASE HISTORY

### CONCLUSIONS FROM PEMEX

Employing coatings and techniques from Superior Products International, Pemex was able to realize a greatly enhanced bottom line profit situation.

By controlling the fuel evaporation problem with the Super Therm ceramic coating, there was a significant cost savings ranging from \$1.8 to \$2.25 million per year throughout the 3,000 tank system.

With the Rust Grip / Super Therm system, Pemex had the ability to extend the tank recoating and maintenance schedule to 10+ years.

The extended maintenance schedule allowed Pemex to enjoy an additional \$213,000,000 million in profits over a 10-year period.



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