Rami Izhiman

From: Khalil- CORTEC ME <kabed@cortec-me.com>
Sent: Monday, July 29, 2013 2:49 PM
To: sameh.hegazy@egyptianlng.com
Cc: Moustafa fahmy
Subject: Cortec VpCI technology for above ground storage tanks
Attachments: Mini AST presentation .pps; cefs_brochure.pdf; MP Article on AST's June 2011.pdf; 2242 Mitigating Soil-Side Corrosion on Crude Oil Tank Bottoms Using Vol....pdf

Dear Eng. Sameh,

Further to the telephone conversation we had, I would like to thank you for your interest in Cortec CorroLogic® system for Aboveground Storage Tanks (ASTs)

In this regard, I would like to share with you preliminary information as per the following bullet points. Then I hope to follow this email with technical discussions on the water tank that might be a candidate for application of this technology:

- **Mini presentation for VpCI® technology in ASTs**

- **Cortec Corrosion Engineering and Field Services brochure**

- **NACE Article:** This article describes VpCI® chemistry and presents several case histories for the use of VpCI technology in protecting tank bottoms. It also shows how the application of vapor phase corrosion inhibitor VpCI® chemistry, combined with a corrosion rate monitoring system, provides an excellent method to mitigate and monitor corrosion within the interstitial spaces of aboveground storage tank bottoms.

- **NACE paper:** This NACE Technical paper describes a pilot project that was conducted in 2011 on an aboveground storage tank (AST) at Saudi Aramco crude oil tank farm. This project was designed to evaluate the procedures for application of volatile corrosion inhibitor VpCI® beneath selected areas of the tank floor and then evaluate the effectiveness of the VpCI® in reducing the corrosiveness of the environment under the tank floor.

Cortec VpCI® Technology is cost effective and practical. It can be applied on CP protected and unprotected new tanks, in-service tanks and also out of service tanks. We also have design solutions for the tanks that have oily sand beneath the floors and can innovate different systems as needed . Our Corrosion Engineering and Field services (CEFS) team has a long history and strong track record in successfully implementing this technology in the united states for more than 300 tanks and more recently in the Middle East. Our Technology is comprehensive and includes a system for introducing the VpCI®, a system for monitoring the corrosion rate and a system for future replenishment, when needed.

Please provide me with me with the following information to understand more about the water tank that we talked about:

1. History of the Tank such as construction date and previous MFL scanning report from the last T&I
2. Tank Dimensions and drawings
3. Tank foundation details:
    a. Ring wall thickness, if exists
    b. HDPE liner, yes or no

c. Is the tank sitting on sweet sand or oily/bituminous sand, concrete or asphalt layer and what is the thickness of that layer
d. Is there a CP system? If yes, What type?
e. Foundation drawings

Should you have any questions or require further clarification, please don't hesitate to contact me.

Regards,

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