One Titan
Titan International, Inc.
Mr. Michael Troyanovich
Corporate Secretary and General Council
201 Spruce Street
Quincy, Illinois 62301

Re: NOTICE OF DISAPPROVAL
Administrative Order, Docket No. 86-F0011
Dico's Performance Evaluation Report No. 29
Des Moines TCE Site, Des Moines Iowa

Dear Mr. Troyanovich:

The U.S. Environmental Protection Agency received and reviewed Dico's revised Performance Evaluation Report No. 29 and response to comments dated October 13, 2015. The EPA does not agree with the recommendation to shut down and decommission the pump and treat system since data has not been included in the Report to show that the remedial action goal set forth in the Administrative Order have been reached. Therefore, the Report is disapproved in accordance with paragraph 36 of the AO.

Enclosed with this letter are the EPA's comments to the Report and the reasons the EPA cannot approve this document. In accordance with paragraph 36 of the above referenced AO, DICO must submit a revised report within thirty days of receipt of this notice that addresses each of the comments to the satisfaction of the EPA. It may be advantageous for us to discuss your proposed changes to the documents prior to resubmitting them.

In addition, in a February 09, 2015 letter accepting the Performance Evaluation Report No. 28, the EPA requested a letter/work plan outlining steps Dico intends to take to prevent prolonged system shutdowns due to maintenance or other unplanned occurrences. Unplanned disruptions can occur due to inclement weather, problems with a well and many other factors. The EPA has not received the requested letter/work plan which was due within 30 days of receipt of the acceptance letter dated February 9, 2015. Please submit this letter/work plan by April 30, 2016.

If you have any questions concerning this matter or comments attached, please contact me at (913) 551-7977.

Sincerely,

Erin S. McCoy, P.G.
Remedial Project Manager
Iowa/Nebraska Remedial Branch
Superfund Division

Enclosure

Cc: Mr. Brian Mills, Dico

Mr. Gazi George, Dico
Mr. Ty Steinman, Dico
Mr. Hylton Jackson, INDR
Mr. Vern Rash, DMWW

Comments on Response to Comments on the revised Performance Evaluation Report #29
Des Moines TCE Site, Des Moines, Iowa
Dated September 2015

EPA Comment 1 - The EPA does not agree with the recommendation to shut down and decommission the pump and treat (P&T) system since the remedial action goal set forth in the Administrative Order (AO) have not been reached. As outlined in paragraph 34 of the 1986 AO, the remedial action goal of the P&T system is to *"provide for the sustained use of the North Gallery as a source of drinking water."* Figure 14 of the Report shows that trichloroethylene (TCE) concentration ranged from 15 to 230 micrograms per liter (µg/L) in extraction wells ERW-5, ERW-6 and ERW-7 during the October 2014 sampling event. Figure 12 shows that in April 2014, TCE concentrations in extraction wells ERW-05 and ERW-06 were 13 and 260 µg/L, respectively. These concentrations are above the maximum contaminant level (MCL) of 5 µg/L. While the AO does not state that groundwater concentrations have to be below the MCL, Dico has not provided data to demonstrate that shutting down the P&T system and pursuing an alternative remedial action can accomplish the remedial action goal with the current contamination levels. Until data is provided to show that the overall remedial action goal can be met by an alternative action, the EPA will continue to disapprove reports that recommend shutting down and dismantling the P&T system. The P&T system shall remain operational to prevent potential impacts to the city water supply.

As for pursuing an alternative remedial action, several remedial technologies have been developed since the P&T system at the Site was started. If Dico believes that an alternative remedial action is better suited for the Site, Dico should submit a work plan outlining what actions are necessary to determine if an alternative remedial action can meet the remedial action goal and how the effectiveness will be monitored. Dico mentioned natural attenuation in the Report as a potential alternative remedial action; however, Dico has not submitted data to show that conditions exist at the Site that allow natural attenuation to degrade the remaining chemicals of concern. Data necessary to evaluate natural attenuation as a potential remedial option can be collected while the P&T system is operational and included as supporting documentation in a work plan.

EPA Comment 2 - The EPA agrees with Dico's response.

EPA Comment 3 - Data is not presented to support the statement that "*hydraulic head measurements collected quarterly during 2014 suggest a groundwater capture width of roughly 100 feet*" due to lack of hydraulic head measurements within 100 feet of the extraction wells. Data within 100 feet of the well is necessary to show the vertical profile of the capture zone. If the data is not presented or referenced to support the conclusion, the statement should not be included within the report.

EPA Comment 4 - Modifications are necessary to groundwater Figures 11 unless additional data is provided. Examples of modifications are listed below and are supported by EPA 2003 document number 600/R-08/003 (A Systematic Approach for Evaluation of Capture Zones at Pump and Treat Systems):

- The equipotential line around the extraction wells needs to be modified based on data supporting a 100 feet captures zone. If no data is presented, the lines should be removed or dashed, indicating an interpretation.
- All equipotential lines shall be labeled.
- Data needs to be presented to support interpretation outside of the monitoring well network or the lines should be removed due to lack of data or dashed indicating an interpretation. For

example, the equipotential line around well NW-14 should not be a continuous solid line since there was no data available to the north, northwest or west of the well. The same is true for well P-2 since data is not presented to the north, northeast or east of the well.

EPA Comment 5 – The report indicates the spillway flashboards increase hydrostatic pressure of the river to groundwater (i.e., the river loses water to groundwater). EPA concurs. The report further indicates that an established hydraulic barrier exists, eliminating the likelihood of contaminants migrating toward the river. According to the 1986 Feasibility Study (FS), a significant difference exists between the river bed and alluvial sediments which indicates that under a scenario where the south gallery is pumping (valve no. 3 closed, north gallery not in use, flashboards up/down), drawdown in the north gallery occurs. Due to this, it is unclear to what extent groundwater east of the river is induced west. EPA recommends that piezometers be installed to determine groundwater flow paths affected by induced recharge and use of the southern gallery.

EPA Comment 6 – No comment.

EPA Comment 7 – Please see the response to comment #1. Evidence that natural attenuation is or can occur on site can be obtained while the P&T system is still in operation. Until Dico presents a work plan outlining what actions are necessary to determine if an alternative remedial action can meet the remedial action goal and how the effectiveness will be monitored, the system shall remain operational.

EPA Comment 8 – Please see the response to comment #1. Evidence that natural attenuation is or can occur on site can be obtained while the P&T system is still in operation. Until Dico presents a work plan outlining what actions are necessary to determine if an alternative remedial action can meet the remedial action goal and how the effectiveness will be monitored, the system shall remain operational.