

Flare Study Final Report: Revisions Based Upon Informal Comments

Introduction

This document explains the anticipated revisions to the Texas Commission on Environmental Quality (TCEQ) 2010 Flare Study Draft Final Report based upon informal comments received as of June 20, 2011. This document does not summarize all informal comments received nor does the document respond to these comments. The anticipated revisions are grouped below by topic and will be included in the TCEQ 2010 Flare Study Final Report anticipated to be posted on the TCEQ Web site on August 1, 2011.

A number of comments focused on agency policy, future agency actions regarding flares, and potential regulatory implications of the TCEQ 2010 Flare Study. Those comments are outside of the scope of the final report and are not addressed below or in the final report. These comments will be considered separately as part of any potential future agency actions regarding the flare study results.

Combustion Zone Gas Net Heating Value

Comments: Several commenters remarked on applicability of combustion zone gas net heating value analysis to industrial flares; some commenters requested additional combustion zone gas net heating value analysis.

Anticipated Revisions: The TCEQ's grant recipient for the TCEQ 2010 Flare Study, the University of Texas at Austin Center for Environmental and Energy Resources (UTCEER), will revise the final report to include citations and links to other studies that analyze combustion zone gas net heating value (e.g., recent United States Environmental Protection Agency [EPA] consent decree testing, if publicly available).

The TCEQ will consult with the UTCEER to determine whether additional combustion zone gas net heating value analysis can be integrated into the final report.

Wind Effects on Flare Performance

Comments: All but one commenter requested that the report be revised to conclude either that wind did not appear to affect flare performance (i.e., destruction and removal efficiency [DRE] and combustion efficiency) or that insufficient data exists to form conclusions about wind effects on flare performance.

Anticipated Revision(s): The UTCEER is currently performing analysis of wind effects on flare performance by calculating flare-to-wind momentum flux ratios and will include this analysis in the final report. The UTCEER will state in the final report whether a conclusion regarding wind impacts on flare performance can be made from available data.

The UTCEER will revise the final report to include citations and links to other studies that examine wind impacts on flare performance (e.g., recent EPA consent decree testing, if publicly available).

Additional Flare Measurement Analysis

Comments: Several commenters requested additional flare measurement data analysis beyond the study's scope and the grant requirements.

Anticipated Action: The final report will not be revised to include any additional analysis beyond the analysis suggested by the Flare Technical Review Panel that falls within the scope of the study. Additional data analysis of the TCEQ 2010 Flare Study may occur outside this final report. The TCEQ will post links on the TCEQ 2010 Flare Study Web page to research directly resulting from the TCEQ 2010 Flare Study that is published in an independent, peer-reviewed journal.

Comparison of Measured Flare Emissions to Estimated Flare Emissions

Comments: Many commenters questioned why the report includes tables that compare actual measured flare emissions to estimated flare emissions. Commenters requested that the study focus on and report measured flare emissions.

Anticipated Revisions: The TCEQ will request UTCEER to revise the tables to report emissions and DRE values from measurements in this study.

Previous TCEQ Study

Comments: A wide variety of comments concerning the TCEQ's 2004 passive Fourier transform infrared (PFTIR) spectrometer study were received, many focusing on the instrument's performance in the 2004 study.

Anticipated Revisions: The UTCEER will revise the final report to include a brief description of PFTIR instrumentation improvements (i.e., hardware and software improvements) between the 2004 and 2010 studies to clarify the differences between the techniques used in the two studies.

Flare Technical Information

Comment: The TCEQ received several comments concerning the minimum manufacturer-recommended steam assist rates, as well as comments regarding the flare tip designs.

Anticipated Revisions: The UTCEER will include information in the final report on minimum steam assist requirements for the flare tips used in this study. The UTCEER will also include the technical specification sheets for the flare tips used in this study in the final report.

1983 EPA and Chemical Manufacturers' Association Flare Testing

Comments: The TCEQ received a wide variety of comments concerning the previous 1983 flare testing study.

Anticipated Revisions: The UTCEER will include a background section in the final report that references previous flare research studies and links to those studies.

The UTCEER will also revise the final report's conclusions to include a statement regarding the agreement between the TCEQ 2010 Flare Study results and the 1983 testing for similar test conditions.

Flare Study Representativeness

Comments: Commenters requested data on how representative the flare tip designs used in the TCEQ 2010 study are of flares currently used in industry.

Anticipated Revisions: The UTCEER will revise the final report to include TCEQ point source emissions inventory data on flare service and assist types.

Particulate Matter Data and Final Report Comments

Comments: Commenters requested an opportunity to review the final flare study report and provide comment, as well as provide comment on particulate matter (PM) data once available.

Anticipated Revisions: The UTCEER will provide PM data as an appendix to the final report as soon as it is available.

The TCEQ will post the PM data as an appendix to the final report as soon as it is available. The TCEQ anticipates finalizing the report without another comment period.