

Crude Distillation Unit—Distillation Tower Overhead System Corrosion

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AMPP values your input. To provide feedback on this standard, please contact: standards@ampp.org

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Foreword

This technical report describes the associated corrosion mechanisms in refinery crude distillation unit (CDU) distillation tower overhead systems and current industry practices for mitigating or controlling this corrosion. Distillation towers in a typical CDU include a pre-flash tower, an atmospheric tower, and a vacuum tower. Feedstock, unit configurations, and associated process variables are addressed, from the crude oil storage tanks to the distillation tower overhead drums.

This report is intended as a technical resource for materials and corrosion specialists, process engineers, and operators at oil refining companies; chemical-treatment suppliers; and other companies involved in analyzing and preventing CDU distillation tower overhead corrosion.

Scope

This report is intended as a technical resource for materials and corrosion specialists, process engineers, and operators at oil refining companies; chemical-treatment suppliers; and other companies involved in analyzing and preventing CDU distillation tower overhead corrosion.

Rationale

Revision of this document was warranted to incorporate new learnings via both experimentation and practical work experience within the refining industry. During the revision of this report, NACE Task Group (TG) 342 conducted a survey in 2017-2019 to collect general industry practice data on several topics covered in this report. The results were published in a separate CORROSION conference paper and are also referenced in relevant sections of this report.¹ Appendix A also summarizes key results from the survey.

AMPP technical reports are intended to convey technical information or state-of-the-art knowledge regarding corrosion. In many cases, they discuss specific applications of corrosion mitigation technology, whether considered successful or not. Statements used to convey this information are factual and are provided to the reader as input and guidance for consideration when applying this technology in the future. However, these statements are not intended to be recommendations for general application of this technology and must not be construed as such.