

Natural Gas Processing Plant Practices for Protection of the Environment

API RECOMMENDED PRACTICE 50
SECOND EDITION, DECEMBER 1995

REAFFIRMED, JANUARY 2013



AMERICAN PETROLEUM INSTITUTE

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Exploration and Production Department

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FOREWORD

RP 50, First Edition was issued January 1975 (Reissued May 1982).

These recommended practices were prepared by the API Subcommittee on Gas Plant Practices for Protection of the Environment. This standard is under administration of the American Petroleum Institute Exploration & Production Department's Executive Committee on Drilling and Production Practices.

It is intended that these voluntary recommended practices serve as a guide to promote protection of the environment in gas processing plant operations. Users of this publication are reminded that constantly developing technology, specific company requirements and policy, and specialized or limited operations do not permit coverage of all possible operations, practices, or alternatives. This standard is not so comprehensive as to present *all* possible practices for protecting the environment in gas processing plant operations. Alternative operating procedures and/or equipment are available and routinely used to meet or exceed recommended practices or performance levels set forth herein. Recommendations presented in this publication are not intended to inhibit developing technology and equipment improvements or improved operating procedures. This publication, or portions thereof, cannot be substituted for qualified technical/operations analysis and judgment to fit a specific situation.

There may be federal, state, or local statutes, rules, or regulations requiring gas processing plant operations to be conducted in a certain manner. Organizations or individuals using this standard are cautioned that requirements of federal, state, or local environmental laws and regulations are constantly evolving and should be reviewed to determine whether or not the practices recommended herein are consistent with current laws and regulations. Gas processing plant operations must comply with the applicable requirements of federal, state, or local regulations.

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Suggested revisions are invited and should be submitted to the director of the Exploration and Production Department, American Petroleum Institute, 1220 L Street, N.W., Washington, D.C. 20005.

Natural Gas Processing Plant Practices for Protection of the Environment

0 Introduction

It is important that environmental issues relating to processes and equipment be given high priority in the initial planning or modification of natural gas processing plants. The selection of certain processes or equipment can have a significant impact on emissions and waste generation, thereby affecting permitting, regulatory compliance, monitoring, and disposal.

This publication is intended to assist gas plant operators in understanding their environmental responsibilities. It is intended to be used primarily by environmental, engineering, and operations personnel and management involved in building, maintaining, modifying, and operating gas processing plants.

There are numerous federal, state, and local environmental statutes, rules, and regulations that deal directly or indirectly with environmental issues that may impact gas processing plant operations. Site-specific permits, notification, and documentation may be required.

1 Scope

Operations within the scope of this standard include natural gas processing and associated gas compression facilities. The publication coverage begins with initial plant planning, permitting, and construction and ends with plant closure and site restoration procedures. General guidelines are provided to be used at gas plant locations to develop site-specific environmental programs.

This standard does not address safety or operational issues except where environmental, safety, and operational issues are intertwined. Process design and equipment selection are not addressed in detail. This publication does not specifically address requirements of process safety management (refer to 29 *CFR* Part 1910.119) that must be considered in gas plant design and operations.

2 References

2.1 STANDARDS

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. All standards are subject to revision, and users are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

API

Environmental Guidance Document: Onshore Solid Waste Management in Exploration and Production Operations

Bull D16 *Suggested Procedure for Development of Spill Prevention, Control, and Countermeasure Plans*

Bull E1 *Generic Hazardous Chemical Category List and Inventory for the Oil and Gas Exploration and Production Industry*

Bull E2 *Bulletin on Management of Naturally Occurring Radioactive Materials (NORM) in Oil and Gas Production*

Bull E4 *Environmental Guidance Document: Release Reporting for the Oil and Gas Exploration and Production Industry as Required by the CWA, CERCLA, and SARA Title III*

GPA¹

8162-70 *LP-Gas Loading Practices Manual*

8166-70 *Manual for Driver-Attended Loading of LP-Gas*

2.2 OTHER REFERENCES

There are numerous federal regulations and laws that may be applicable to gas processing plant operations. These regulations and laws should be carefully studied to determine their impact on and applicability to specific operations. The following are some of the major regulations and laws that apply.

2.2.1 Regulations

EPA²

40 *Code of Federal Regulations* Part 51

40 *Code of Federal Regulations* Part 52

40 *Code of Federal Regulations* Part 60

40 *Code of Federal Regulations* Subchapter C, Part 61

40 *Code of Federal Regulations* Part 110

40 *Code of Federal Regulations* Part 112

40 *Code of Federal Regulations* Part 116.4

40 *Code of Federal Regulations* Part 122

40 *Code of Federal Regulations* Part 144

40 *Code of Federal Regulations* Part 146.5

40 *Code of Federal Regulations* Part 147

¹Gas Processors Association, 6526 East 60th Street, Tulsa, Oklahoma 74145.

²Environmental Protection Agency. The *Code of Federal Regulations* and *Federal Register* are available from U.S. Government Printing Office, Washington, D.C. 20402.