

Definition of Onshore Gas Gathering Lines

API RECOMMENDED PRACTICE 80
SECOND EDITION, MARCH 2020

ADDENDUM 1, JANUARY 2023



American
Petroleum
Institute

Special Notes

API publications necessarily address problems of a general nature. With respect to particular circumstances, local, state, and federal laws and regulations should be reviewed.

Neither API nor any of API's employees, subcontractors, consultants, committees, or other assignees makes any warranty or representation, either express or implied, with respect to the accuracy, completeness, or usefulness of the information contained herein, or assumes any liability or responsibility for any use, or the results of such use, of any information or process disclosed in this publication. Neither API, nor any of API's employees, subcontractors, consultants, or other assignees represent that use of this publication would not infringe upon privately owned rights.

API publications may be used by anyone desiring to do so. Every effort has been made by the Institute to ensure the accuracy and reliability of the data contained in them; however, the Institute makes no representation, warranty, or guarantee in connection with this publication and hereby expressly disclaims any liability or responsibility for loss or damage resulting from its use or for the violation of any authorities having jurisdiction with which this publication may conflict.

API publications are published to facilitate the broad availability of proven, sound engineering and operating practices. These publications are not intended to obviate the need for applying sound engineering judgment regarding when and where these publications should be used. The formulation and publication of API publications is not intended in any way to inhibit anyone from using any other practices.

Any manufacturer marking equipment or materials in conformance with the marking requirements of an API standard is solely responsible for complying with all the applicable requirements of that standard. API does not represent, warrant, or guarantee that such products do in fact conform to the applicable API standard.

All rights reserved. No part of this work may be reproduced, translated, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publisher. Contact the Publisher, API Publishing Services, 200 Massachusetts Avenue, NW, Suite 1100, Washington, DC 20001-5571.

Foreword

Nothing contained in any API publication is to be construed as granting any right, by implication or otherwise, for the manufacture, sale, or use of any method, apparatus, or product covered by letters patent. Neither should anything contained in the publication be construed as insuring anyone against liability for infringement of letters patent.

The verbal forms used to express the provisions in this document are as follows.

Shall: As used in a standard, “shall” denotes a minimum requirement to conform to the standard.

Should: As used in a standard, “should” denotes a recommendation or that which is advised but not required to conform to the standard.

May: As used in a standard, “may” denotes a course of action permissible within the limits of a standard.

Can: As used in a standard, “can” denotes a statement of possibility or capability.

This document was produced under API standardization procedures that ensure appropriate notification and participation in the developmental process and is designated as an API standard. Questions concerning the interpretation of the content of this publication or comments and questions concerning the procedures under which this publication was developed should be directed in writing to the Director of Standards, American Petroleum Institute, 200 Massachusetts Avenue, Suite 1100, Washington, DC 20001. Requests for permission to reproduce or translate all or any part of the material published herein should also be addressed to the director.

Generally, API standards are reviewed and revised, reaffirmed, or withdrawn at least every five years. A one-time extension of up to two years may be added to this review cycle. Status of the publication can be ascertained from the API Standards Department, telephone (202) 682-8000. A catalog of API publications and materials is published annually by API, 200 Massachusetts Avenue, Suite 1100, Washington, DC 20001.

Suggested revisions are invited and should be submitted to the Standards Department, API, 200 Massachusetts Avenue, Suite 1100, Washington, DC 20001, standards@api.org.

Currently in preview, click buy full version

Contents

	Page
1	Scope..... 1
2	Normative References 1
3	Terms, Definitions, Acronyms, and Abbreviations 1
3.1	Terms and Definitions 1
4	Gathering Lines 2
4.1	General Discussion..... 2
4.2	Definition of Onshore Gathering Line 3
4.3	Basic Gathering Line Definition Concepts 3
4.4	Definition of Production Operation..... 8
5	Applications 9
5.1	Examples of Gas Gathering..... 9
5.2	Example of Central Production Handling Facility with Satellites..... 12
5.3	Example of Production and Gathering Operations 13
5.4	Example of a Gas Gathering System with Multiple Compressors 15
5.5	Gas Gathering System with Fuel Gas Return Lines 17
	Annex A (informative) Decision Trees..... 19

Figures

1	Example of a Gas Processing Plant as the Furthest-most Downstream End point for Gathering..... 4
2	Example of a Gas Processing Plant as the Furthermost Downstream End point for Gathering Following an Intermediate Facility..... 4
3	Example of Gas Treatment Facility as the Furthermost Downstream End point of Gathering 5
4	Example of Commingling..... 5
5	Example A of Distance Restrictions on Gathering 6
6	Example B of Distance Restrictions on Gathering..... 6
7	Example of Compression on a Gathering Line System 7
8	Incidental Gathering Downstream of an Identified End point..... 7
9	Gas Return Lines..... 8
10	Example of Gathering Extending to the Furthest-most Downstream End point 8
11	Examples of Gas Gathering..... 11
12	Central Production Handling Facility with Satellites Example..... 12
13	Example Gas Gathering System 14
14	Gas Gathering System with Multiple Compressors 16
15	Gas Gathering System with Fuel Gas Return Lines 18
A.1	Onshore Gas Gathering Decision Tree (Alternative 1) 20
A.2	Onshore Gas Gathering Decision Tree (Alternative 2) 21
A.3	Alternative Decision Tree for Figure 8 (Scenario A)..... 22
A.4	Alternative Decision Tree for Figure 8 (Scenario A)..... 23
A.5	Alternative Decision Tree for Figure 8 (Scenario B) 24
A.6	Alternative Decision Tree for Figure 8 (Scenario B) 25
A.7	Alternative Decision Tree for Figure 8 (Scenario C) 26
A.8	Alternative Decision Tree for Figure 8 (Scenario C) 27

Contents

	Page
A.9 Alternative Decision Tree for Figure 9	28
A.10 Alternative 2 Decision Tree for Figure 9	29
A.11 Alternative 1 Decision Tree for Figure 10	30
A.12 Alternative 2 Decision Tree for Figure 10	31
A.13 Alternative 1 Decision Tree for Figure 11.....	32
A.14 Alternative 2 Decision Tree for Figure 11.....	33
A.15 Alternative 1 Decision Tree for Figure 12 (Gas Return Lines).....	34
A.16 Alternative 2 Decision Tree for Figure 12 (Gas Return Lines)	35
A.17 Alternative 1 Decision Tree for Figure 12	36
A.18 Alternative 2 Decision Tree for Figure 12	37

Introduction

The first edition of this recommended practice was published in April 2000 and reaffirmed in January 2013. This RP was incorporated by PHMSA into reference in March 2006.

In August 2011, PHMSA published an advance notice of proposed rulemaking (ANPRM) asking for public comment on the need to change the federal pipeline safety standards for gas gathering lines in 49 C.F.R. Part 192. (Docket No. PHMSA-2011-0023; 76 Fed. Reg. 53,086).

In April 2016, PHMSA issued a notice of proposed rulemaking (NPRM) with potential changes to the regulations for onshore gas gathering lines (Docket No. PHMSA-2011-0023; 81 Fed. Reg. 20,721).

The second edition revision effort reflects industry experience using the recommended practice. Operators, service providers, regulators, and public interest groups participated in the task group responsible for revising the recommended practice. The primary objective of this revision was to create a more concise document with a focus on clarity for end users.

As of the time of publication of this document, RP 80, 1st Edition was incorporated by reference into U.S. federal regulation (49 CFR 192). The 2nd Edition of RP 80 has not been incorporated by reference into U.S. federal regulation (49 CFR 192). Users of this document may also need to reference the 1st Edition of RP 80.

Currently in preview, click buy full version

Definition of Onshore Gas Gathering Lines

1 Scope

This industry standard provides a functional description of onshore natural gas gathering pipelines for the sole purpose of providing users with a practical guide for determining the application of gas gathering in the federal *Gas Pipeline Safety Standards*, 49 CFR Part 192, and state programs implementing these standards. Because of the regional and operational diversity within the natural gas industry, additional guidance is necessary to ensure appropriate and consistent application of the gas gathering line definition. This document does not apply to transportation-related underground gas storage facilities.

2 Normative References

There are no normative references in this document.

3 Terms, Definitions, Acronyms, and Abbreviations

3.1 Terms and Definitions

For the purposes of this document, the following definitions apply.

3.1.1

commingle

To combine the hydrocarbon streams from two or more wells, units, fields, production zones, or production facilities through a series of pipelines for processing, treatment, and/or delivery to an end user or another pipeline.

3.1.2

extraction and recovery

Operations used to move liquid and/or gas products from an underground reservoir to the surface.

3.1.3

gathering line gas treatment facility

One or a series of gas treatment operations on a gathering line operated for the purpose of removing impurities.

3.1.4

lifting

Refers to mechanical and other means used to move liquid and/or products from the producing interval in the well to the surface.

3.1.5

measurement

The process of gauging or determining the quantity of hydrocarbons.

3.1.6

natural gas processing plant

A natural gas processing operation, other than production processing, operated for the purpose of commercially extracting one or more components, such as natural gas liquids, carbon dioxide, sulfur, or helium from the gas stream. Gas processing plants are not transportation facilities. Operations within these facilities are on gas that has been removed from transportation for processing.

3.1.7

production

The extraction of subsurface liquid and/or gas hydrocarbon resources.