

ASME B31.8S-2012
(Revision of ASME B31.8S-2010)

Managing System Integrity of Gas Pipelines

**ASME Code for Pressure Piping, B31
Supplement to ASME B31.8**

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

ASME B31.8S-2012
(Revision of ASME B31.8S-2010)

Managing System Integrity of Gas Pipelines

**ASME Code for Pressure Piping, B31
Supplement to ASME B31.8**

AN AMERICAN NATIONAL STANDARD



**The American Society of
Mechanical Engineers**

Three Park Avenue • New York, NY • 10016 USA

Date of Issuance: January 11, 2013

The next edition of this Code is scheduled for publication in 2014.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Code. Periodically certain actions of the ASME B31 Committee may be published as Cases. Cases and interpretations are published on the ASME Web site under the Committee Pages at <http://cstools.asme.org/> as they are issued.

Errata to codes and standards may be posted on the ASME Web site under the Committee Pages to provide corrections to incorrectly published items, or to correct typographical or grammatical errors in codes and standards. Such errata shall be used on the date posted.

The Committee Pages can be found at <http://cstools.asme.org/>. There is an option available to automatically receive an e-mail notification when errata are posted to a particular code or standard. This option can be found on the appropriate Committee Page after selecting “Errata” in the “Publication Information” section.

ASME is the registered trademark of The American Society of Mechanical Engineers.

This code or standard was developed under procedures accredited as meeting the criteria for American National Standards. The Standards Committee that approved the code or standard was balanced to assure that individuals from competent and concerned interests have had an opportunity to participate. The proposed code or standard was made available for public review and comment that provides an opportunity for additional public input from industry, academia, regulatory agencies, and the public-at-large.

ASME does not “approve,” “rate,” or “endorse” any item, construction, proprietary device, or activity.

ASME does not take any position with respect to the validity of any patent rights asserted in connection with any items mentioned in this document, and does not undertake to insure anyone utilizing a standard against liability for infringement of any applicable letters patent, nor assumes any such liability. Users of a code or standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, is entirely their own responsibility.

Participation by federal agency representative(s) or person(s) affiliated with industry is not to be interpreted as government or industry endorsement of this code or standard.

ASME accepts responsibility for only those interpretations of this document issued in accordance with the established ASME procedures and policies, which precludes the issuance of interpretations by individuals.

No part of this document may be reproduced in any form,
in an electronic retrieval system or otherwise,
without the prior written permission of the publisher.

The American Society of Mechanical Engineers
Three Park Avenue, New York, NY 10016-5990

Copyright © 2013 by
THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS
All rights reserved
Printed in U.S.A.

CONTENTS

Foreword	v
Committee Roster	vi
Summary of Changes	x
1 Introduction	1
2 Integrity Management Program Overview	2
3 Consequences	8
4 Gathering, Reviewing, and Integrating Data	9
5 Risk Assessment	12
6 Integrity Assessment	17
7 Responses to Integrity Assessments and Mitigation (Repair and Prevention)	21
8 Integrity Management Plan	27
9 Performance Plan	28
10 Communications Plan	33
11 Management of Change Plan	34
12 Quality Control Plan	35
13 Terms, Definitions, and Acronyms	35
14 References and Standards	41
Figures	
2.1-1 Integrity Management Program Elements	3
2.1-2 Integrity Management Plan Process Flow Diagram	4
3.2-1 Potential Impact Area	9
7.2.1-1 Timing for Scheduled Responses: Time-Dependent Threats, Prescriptive Integrity Management Plan	25
13-1 Hierarchy of Terminology for Integrity Assessment	36
Tables	
4.2.1-1 Data Elements for Prescriptive Pipeline Integrity Program	10
4.3-1 Typical Data Sources for Pipeline Integrity Program	11
5.6.1-1 Integrity Assessment Intervals: Time-Dependent Threats, Internal and External Corrosion, Prescriptive Integrity Management Plan	14
7.1-1 Acceptable Threat Prevention and Repair Methods	23
8.3.4-1 Example of Integrity Management Plan for Hypothetical Pipeline Segment (Segment Data: Line 1, Segment 3)	29
8.3.4-2 Example of Integrity Management Plan for Hypothetical Pipeline Segment (Integrity Assessment Plan: Line 1, Segment 3)	29
8.3.4-3 Example of Integrity Management Plan for Hypothetical Pipeline Segment (Mitigation Plan: Line 1, Segment 3)	30
9.2.3-1 Performance Measures	31
9.4(b)-1 Performance Metrics	32
9.4(c)-1 Overall Performance Measures	32

Nonmandatory Appendices

A	Threat Process Charts and Prescriptive Integrity Management Plans	45
B	Direct Assessment Process	65
C	Preparation of Technical Inquiries	66