

ISO 12747:2025-06 (E)

Oil and gas industries including lower carbon energy - Pipeline transportation systems - Requirements and guidance for pipeline life extension assessment

Contents

Page

- Foreword..... v
- Introduction vi
- 1 Scope..... 1**
- 2 Normative references..... 1**
- 3 Terms and definitions..... 1**
- 4 Abbreviated terms..... 6**
- 5 Life extension overview..... 7**
 - 5.1 General.....7
 - 5.2 Assessment process.....7
 - 5.3 Assessment requirements.....8
 - 5.4 Limitations on life extension.....10
 - 5.5 Pipeline system availability.....11
 - 5.5.1 General.....11
 - 5.5.2 Pipeline ancillary components.....11
 - 5.5.3 Threats.....11
- 6 Data compilation..... 12**
- 7 Structural integrity of the pipeline system..... 12**
 - 7.1 General.....12
 - 7.2 Structural integrity assessment.....13
 - 7.3 PIMS review.....13
 - 7.4 Remediation requirements.....13
- 8 Future threat identification..... 14**
- 9 Life extension assessment..... 14**
 - 9.1 Risk assessment.....14
 - 9.1.1 Process.....14
 - 9.1.2 Use of risk assessment in life extension.....14
 - 9.1.3 Risk management.....15
 - 9.2 Pipeline system design review.....15
 - 9.2.1 Design standards.....15
 - 9.2.2 Changes to the design basis.....16
 - 9.2.3 Additional data requirements.....17
 - 9.3 Assessment of remnant life.....17
 - 9.3.1 General.....17
 - 9.3.2 Corrosion assessment.....17
 - 9.3.3 Fatigue and flaw assessment.....18
 - 9.3.4 Remediation.....19
 - 9.4 Integrity management during extended life.....19
 - 9.4.1 PIMS.....19
 - 9.4.2 Inspection and monitoring.....20
 - 9.4.3 Integrity of risers within caissons and j-tubes.....20
 - 9.5 Regulatory requirements.....21
 - 9.6 Update of systems and procedures.....21
 - 9.6.1 General.....21
 - 9.6.2 Emergency response procedures.....21
 - 9.6.3 Operations and safety systems.....21

10 Life extension report..... 21

Annex A (informative) Considerations for lifetime extension of unbonded flexible pipe 23

Annex B (normative) Change of fluid..... 25

Annex C (informative) Typical data requirements 27

Annex D (informative) Defect and anomaly assessment guidance..... 31

Annex E (informative) Common threats to rigid pipelines 32

Annex F (informative) Inspection, testing, monitoring and sampling techniques..... 33

Bibliography..... 35