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**