

Crack ILI Response: Maximum Depth and Failure Pressure Ratio

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1 Scope

This technical report is related to the Pipeline Research Council International (PRCI) project NDE-4-20¹. This technical report justifies the failure pressure ratio (FPR) and depth elements of reasonable and prudent crack ILI response criteria, to be applied in combination with other best practices of API RP 1176² and consideration of advancements in ultrasonic crack ILI technologies and performance.

2 Normative References

There are no normative references in this document.

3 Abbreviations

CL	crack-like
c/w	considered with
FPR	failure pressure ratio
ILI	in-line inspection
IMP	integrity management plan
MOP	maximum operating pressure
NDE	nondestructive examination
PAUT	phased array ultrasonic test
SCC	stress corrosion crack(ing)
TT	tool tolerance
UTCD	ultrasonic tool crack detection
w/o	without
WT	wall thickness

4 General

The recommended response to crack ILI information, which is expected to become a normative annex to the revision of API RP 1176, is shown in [Table 1](#). The criteria shaded in green were examined as part of the NDE-4-20 project.

While some of the findings can inform gas transmission pipelines and corrosion ILI response, the focus of NDE-4-20 and this technical report is axial cracking in hazardous liquid pipelines.

¹ C. Macrory et al., "Considerations for Crack ILI Response in Hazardous Liquid Pipelines," PRCI, PR727-213904-R01, 2022.

² API RP 1176, *Recommended Practice for Assessment and Management of Cracking in Pipelines*, First Edition, July 2016.