

**Public Page**  
**Applying External Corrosion Direct Assessment to Difficult to Inspect Areas (#130)**  
**Contract Number: DTRS56005-T-0003**  
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**Battelle**

ECDA is a process designed to provide an alternative method of pipeline integrity assessment that may be used in lieu of ILI and pressure testing. The ECDA process as contained in NACE document RP0502 has been embraced by the industry and included in regulatory documents pertaining to pipeline integrity management plans. ECDA validation has been an industry concern since the industry does not have extensive experience with implementing the process as a whole.

A previous ECDA validation effort conducted by Battelle indicated that some conditions could be more difficult to inspect than addressed by typical methods. To successfully comply with the CFR's, such locations must be considered. The objective of this project is to evaluate the ECDA process in applications to such sites and to offer suggestions or insight to make the ECDA process more viable for such sites.

A PRCI/GTI/INGAA/NACE committee has compiled and prioritized a list of hard to inspect areas based on their collective experience with the indirect inspection methods included in NACE RP 0502 and performing ECDA projects. This project will concentrate on the evaluation and validation of the highest priority items in the following list to provide guidance to the industry when such areas are encountered during the performance of ECDA projects.

**Prioritized ECDA Hard to Inspect Areas**

1. Cased crossings
  - a. Pipe partially or fully encased in concrete anchors.
  - b. Pipe into buildings etc through brick/concrete walls
2. Pavement or other hard surfaces
3. Shielding coatings (coating that cause electrical shielding per RP 0502)
  - a. Insulated pipelines
  - b. Joint coatings (shrink sleeves)
4. Significant stray current ( HVAC, HVDC etc)
5. Water/River crossings
  - a. Concrete coated pipe/swamp weights
6. Station piping or other similar complex piping locations
7. Bare or poorly coated pipelines
8. Shielding Soils
9. Deep burial conditions
10. Multiple, parallel pipelines in the same R-O-W.
11. Spans