

1 **Determining the effectiveness of cathodic protection of buried pipelines**

2 -A comparative study between field experience, existing standards and the application of “on-
3 potential” criteria-

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8 At Open Grid Europe (and for most gas transmission operators in Germany) the
9 method of choice for assessing the effectiveness of cathodic protection of non-
10 piggable pipelines is the so called Intensive measurement technique. By using this
11 technique the iR-free potentials of coating defects are determined and compared to
12 the protection potentials as stated in the ISO 15589-1. Any coating defects which do
13 not meet the protection criteria are excavated and thoroughly inspected. In more than
14 90 % of inspected excavations no corrosion was found, conclusively the
15 effectiveness of cathodic protection in this cases was proven even without meeting
16 the protection criteria as mentioned in the ISO 15589-1.

17 Re-analyzing the data by application of the on-potential criteria according to
18 EN 14505 (cathodic corrosion protection of complex structures) shows that a much
19 better correspondence exists between the intensive measurement data and
20 excavation results.