

عنوان مقاله:

Corrosion Reliability Assessment of underground Water Transmission Pipelines by IHS Algorithm

محل انتشار:

نشریه بین المللی قابلیت اطمینان، ریسک و ایمنی: نظریه و کاربرد، دوره 1، شماره 1 (سال: 1397)

تعداد صفحات اصل مقاله: 7

نویسندگان:

Naser Kazemi Eilaki - *Department of engineering and development, ABFASB, Zahedan, Iran*

Soroosh Sanayee Mogahdam - *Executive and Technical Expert, Abfan Consultant Eng. Co, Tehran, Iran*

Ali Ghasemi - *Managing Director, Water&Wastewater Eng. Co, Zahedan*

Hosein Abotorab - *Chief Research & Technical Officer, National Water&Wastewater Eng. Co, Tehran, Iran*

خلاصه مقاله:

Lifetime of pipelines is very important for safe and sanitary water transmission pipelines and water distribution networks. For this purpose reliability assessment analysis is a good tool and made it easy or feasible to make more better decision for inspections during maintenance and utilization process. In this study, a non-linear state model of corrosion has been used for the structural analysis of corroded water transmission pipelines, stressed by internal pressure and substance corrosion are considered simultaneous base on a limit state function. In order to take the uncertainty associated with the design and environmental variables into account and obtaining failure probability (reliability index), a improved harmony search meta-heuristic optimization algorithm has been selected. Sensitivity analysis of associated parameters is carried out to measure the effectiveness of each ones on the probability of pipe failure. Results obtained for steel pipeline of Karevandar to Kash water transmission project is discussed as a case study.

کلمات کلیدی:

Water Transmission Pipelines, Corrosion Reliability Assessment, Harmony Search Optimization Algorithm, Failure probability

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1265560>

