Pipe Nominal Wall Thickness Report for

Gosford Rd Meter Station

November 7, 2022

Pacific Gas and Electric Company

Facility Integrity Management Program (FIMP) Risk

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Summary

The Nominal Wall Thickness (NWT) of the pipe joints (JT-01, JT-02, JT-05, JT-07, and JT-08) within Gosford Rd Meter Station was analyzed using Kiefner & Associates, Inc. Nominal Wall Thickness (NWT) Calculator version, *Prototype III build 07.* The tool determines the most probable NWT for a pipe based on vintage and outside diameter (OD) according to API 5L Editions 1 to 43 (1927 to 2004). The algorithm used in this software is described in References [1] and [2]. The wall thickness data sets that were used in the NWT analysis were based on the Ultrasonic Thickness Testing collected by Audubon Industrial Solutions shown in Reference [3]. The complete NWT calculation results are shown in Reference [4]. Table 1 and Table 2 summarize the results of the analysis.

The far-right column of Table 2, 'Most Probable NWT', is a single value for the Most Probable NWT that should be used for downstream analyses. The Most Probable NWT was taken by considering the most probable NWT from the four data sources (two from Table 1 and two from Table 2) that were determined by the NWT Calculator and which were recorded in Reference [4]. For the 1986 vintage 4.5" OD pipe joints (JT-01), the most conservative result across all data sources was selected, and the most probable NWT was selected as 0.25". For the 2004 vintage 4.5" OD pipe joints (JT-02, JT-05, JT-07, and JT-08), the most conservative result across all data sources was selected, and the most probable NWT was selected as 0.237".

For Gosford Rd Meter Station, this process resulted in the selection of the most probable NWT that were unanimous or conservative across the data sources.

Table 1. Summary of NDE Data for Gosford Rd Meter Station

		Audubon (12-pt UT)	
Component	OD [in]	Total # of Measurements	Minimum Measured Wall Thickness [in]
JT-01	4.5	36	0.235
JT-02	4.5	36	0.228
JT-05	4.5	36	0.232
JT-07	4.5	36	0.227
JT-08	4.5	36	0.225

Table 2. Summary of NDE Data for Gosford Rd Meter Station and Most Probable NWT

		Audubon (AUT)			
Component	OD [in]	Total # of Measurements	Mean [in]	Standard Deviation [in]	Most Probable NWT [in]
JT-01	4.5	863262	0.249	0.007	0.25
JT-02	4.5	983460	0.24	0.007	0.237
JT-05	4.5	1899128	0.242	0.006	0.237
JT-07	4.5	3517615	0.242	0.006	0.237
JT-08	4.5	1618232	0.24	0.007	0.237

References

[1] J. Ma and M. Rosenfeld, "Probabilistic Approach to Characterizing PG&E Station Features - Task 1. Most Probable Feature Grade", in *Kiefner and Associates, Inc.*, Columbus, OH, 2018.

[2] E. Munoz and D. Bellistri, “Nominal Wall Thickness Calculator Equations and Glossary Update”, August 2, 2021 [Document No. 0215-1901-FIVP-TN-15-0.1].

[3] T. Fisher, "Gosford Rd Meter Station UTT Report", Audubon Industrial Solutions, Houston, TX, August 20, 2022, [309_Gosford Rd. Meter Station_Audubon_UTT-BM Report_Final.pdf].

[4] PG&E file, “Complete Gosford Rd NWT Calculation Results.pdf”, 2022.