



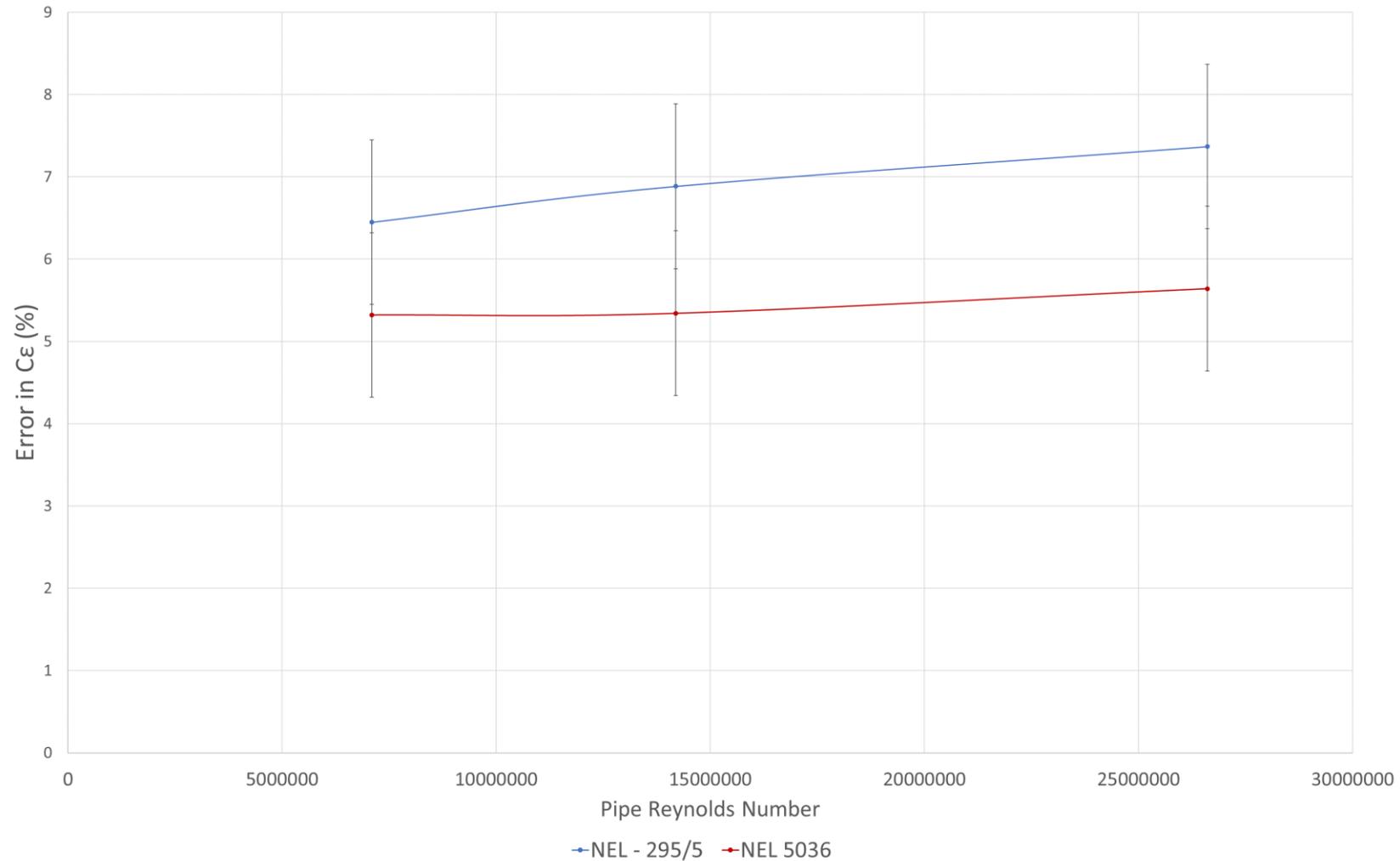
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Summary Conclusions from ITE 1 and 2

27/07/22

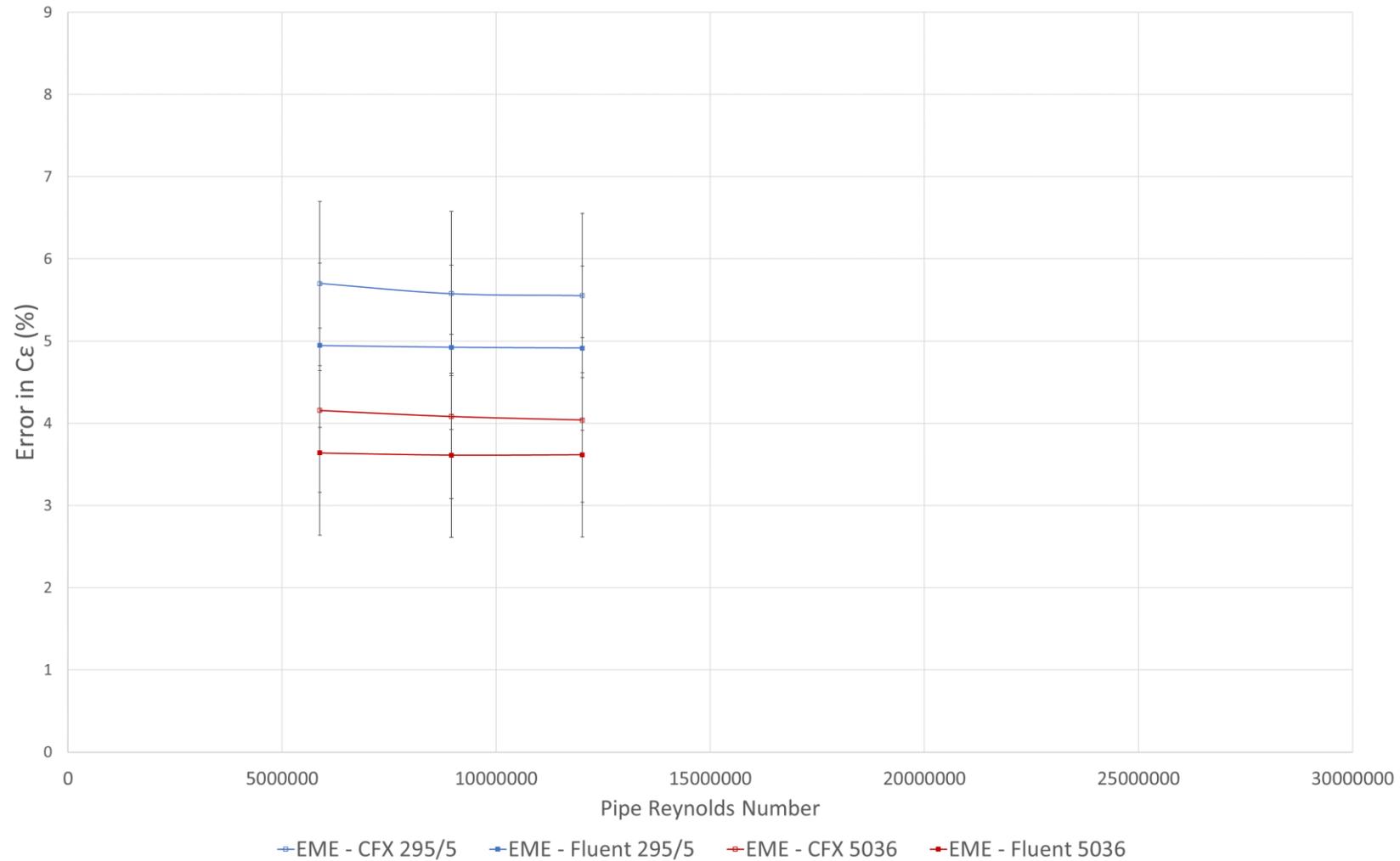
Summary of ITE 1

Comparison of Errors in Discharge Coefficient from CFD, Correlation and USM Testing



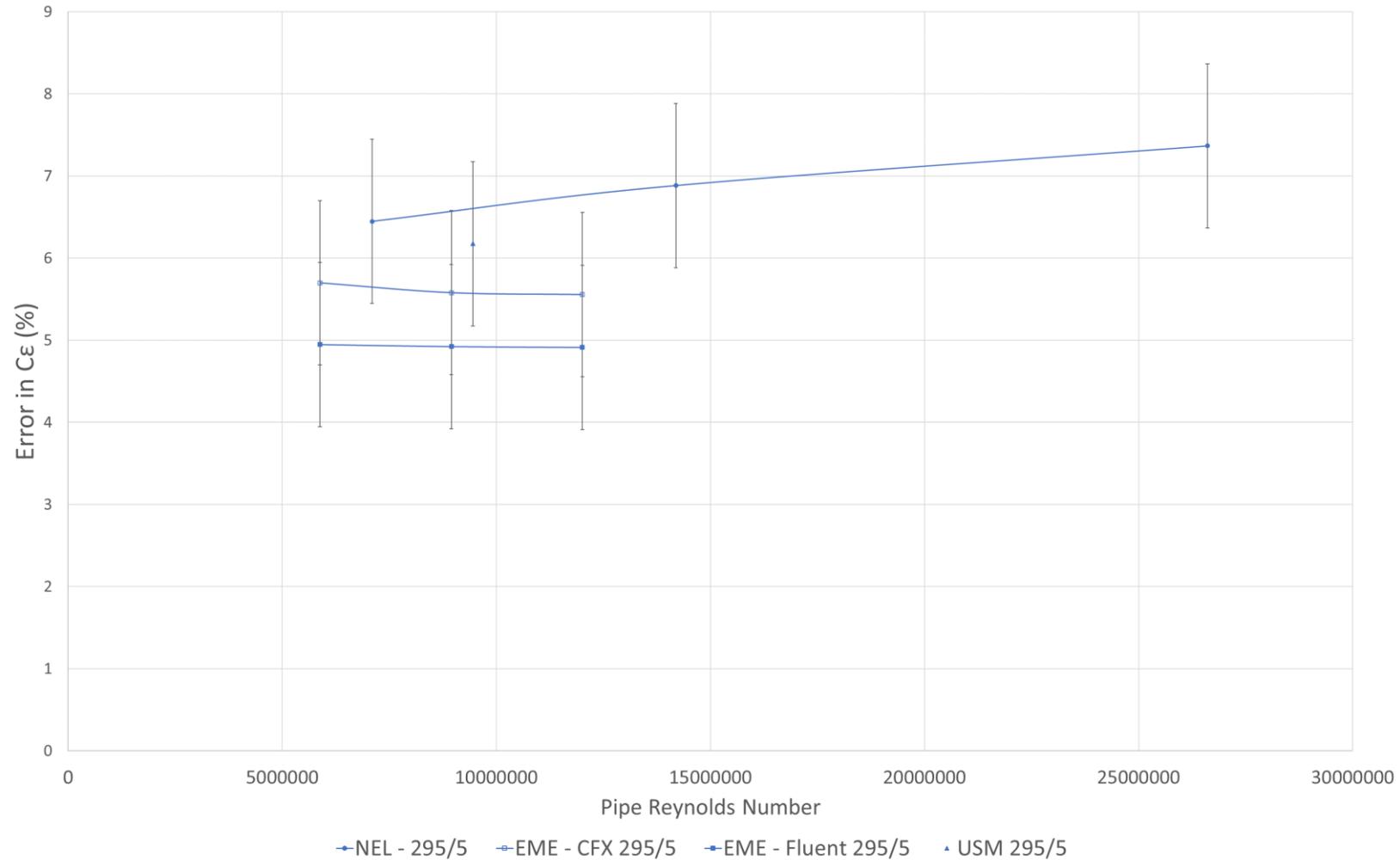
Summary of ITE 2

Comparison of Errors in Discharge Coefficient from CFD, Correlation and USM Testing



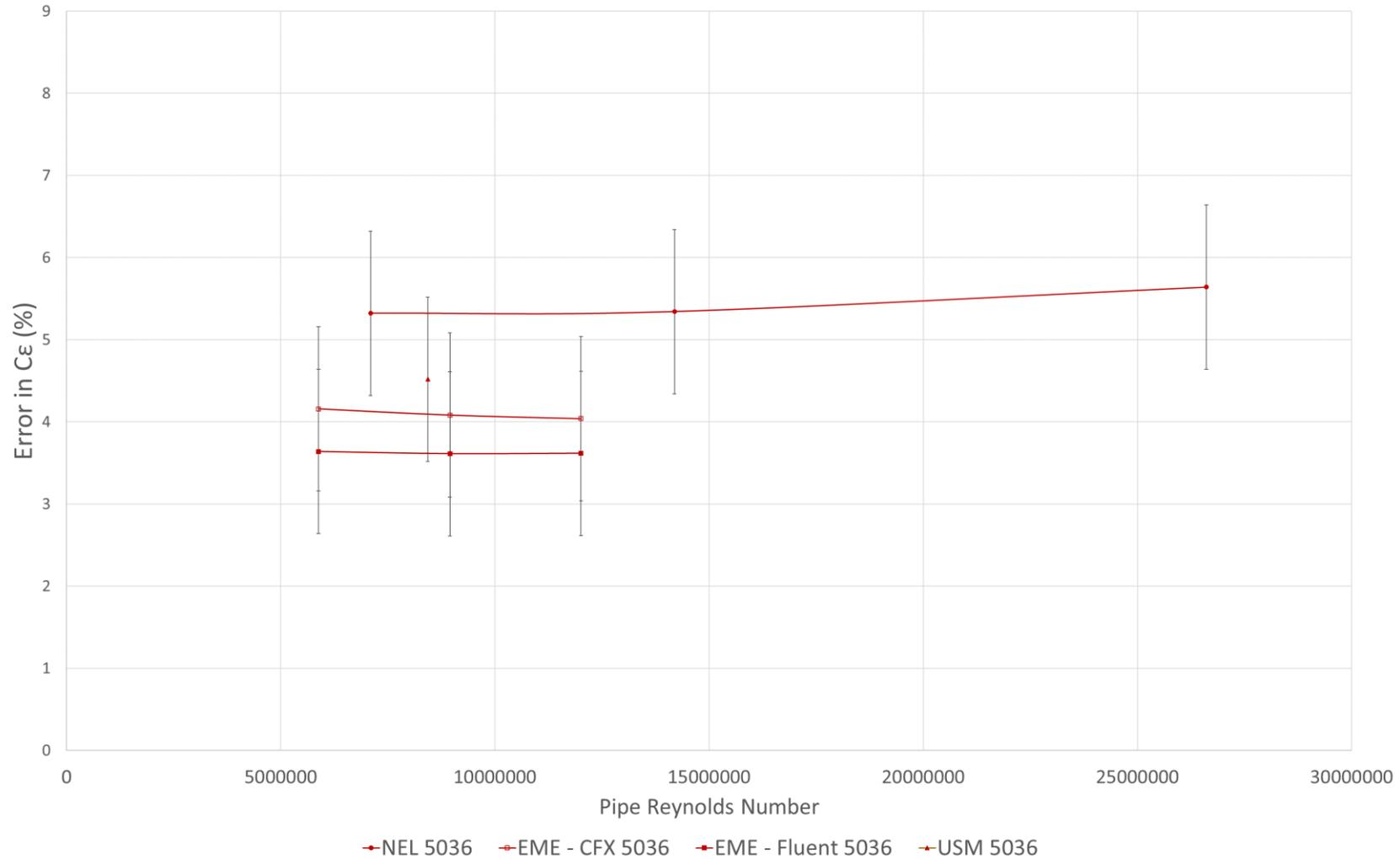
Comparison of Predicted Errors

Comparison of Errors in Discharge Coefficient from CFD, Correlation and USM Testing for 295/5



Comparison of Predicted Errors

Comparison of Errors in Discharge Coefficient from CFD, Correlation and USM Testing for : 5036

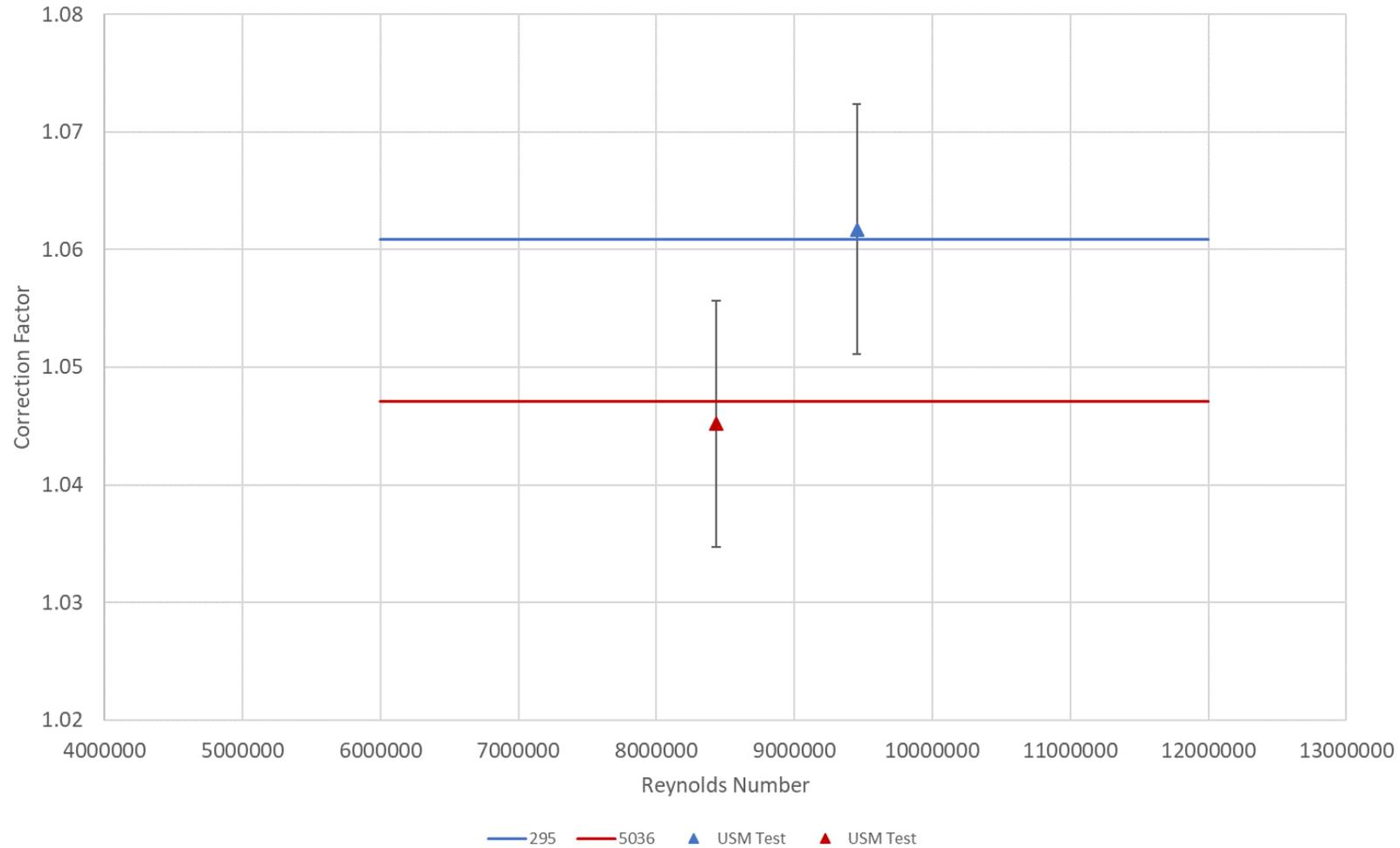


Differences and Agreements of ITEs

- Some differences observed in daily figures
 - ITE 1 used 12 noon, ITE 2 used 5am
 - ITE 2 figures altered by 1 day
 - moved to ITE 2 timing to match daily logs
- Less than 1.5% difference from ITE 1 and 2 CFD results
- Less than 1% difference in submitted correction factor for both plates
- Results are in reasonable agreement with each other
- Agreed to use constant correction factor
- Correction Factor calculated as average of ITE 1 CFD and ITE 2 CFX CFD at Flow test Reynolds number
- Any Reynolds number dependance included through averaging method

Agreed Correction Error v Flow Test

Comparison of final Correction Factor and USM Flow Tests



Mis-Measurement Summary

Data	Reported Energy (kWh)	Reported Volume (m3)	CV (MJ/m3)	Average of Correction Factor	Corrected Energy (kWh)	Corrected Volume (sm3)	Applied Correction - Energy (kWh)	Applied Correction - Volume (sm3)
+ 2019	3,154,013,333	288,732,922	39.31	1.0598	3,345,562,006	306,268,080	191,548,673	17,535,158
+ 2020	8,098,611,111	741,080,100	39.35	1.0523	8,541,395,657	781,603,820	442,784,545	40,523,720
+ 2021	3,294,801,667	303,385,366	39.03	1.0437	3,442,823,078	317,015,048	148,021,411	13,629,682
Grand Total	14,547,426,111	1,333,198,388	39.31	1.0541	15,329,780,741	1,404,886,947	782,354,629	71,688,559

- The final correction factor for plate 295/5 was found to be 1.06084.
- The final correction factor for plate ALRE5036 was found to be 1.04709.
- From the period of 23rd May 2019 to 23rd February 2021 inclusive, the total measured flowrate was 14,547 GWh and 1,333.2 MMSm³.
- During this period there was an undermeasurement of 782.4 GWh and 71.69 MMSm³.