A FOREWORD TO VERSION 43.0 (2021)

FARADIP has been steadily developed and extended since its inception in 1987, since when there have been 42 updates. The time has come for a major review of all the FARADIP entries which have been subject to continuous refinement of the ranges using Technis data and judgment. The result is the new **FARADIP.FOUR** which blends old and new data by compensating for reliability growth to provide rates which are credible values for current equipment.

In 2015 (Faradip3 Version 8.0), a major review of the microelectronics, passive and discrete data took account of the steady reduction in component failure rates over the last four decades. Technis Guidelines T821 address this issue and offer reduction factors which have been applied, conservatively, to all of the older data. Credible failure rate ranges for each item were thus arrived at by judgment based on the age and sources of the available data.

Despite the ease of data collection being facilitated by the growth of IT there is, sadly, a dearth of data analysis compared with the 1980s. Offshore data studies have expanded whereas other sectors have not been so forthcoming. It has thus been necessary for FARADIP to retain the information provided by older data, but suitably factored for reliability growth.

The centre column of each range continues to indicate the central tendency of the data within that range. Where a large number of entries is available for a specific range then the geometric mean of the entries has been taken into account in making a judgement.

Due to the wide range of failure mode proportions, indicated by the various data sources, Technis judgment has been used (in combination with some FMEDA results) to establish recommended average percentage values.

RECENT EARLIER VERSIONS

Faradip3 Version 11.0 (2019) added an additional screen to cover tanks, vessels & bunds and the microelectronic failure rates were re-addressed in respect of those applying to the middle and right-hand columns and to the higher junction temperatures.

Version 9.0 (2016) added a screen providing a brief introduction to human error probabilities. They are intended as a broad guide only but are, however, based on empirical data collected by Technis.