

William Tinney passed away recently at the age of 97.

We've lost one of the great Power System engineers of the last century, a true industry expert.

While working for the Bonneville Power Administration (BPA) from 1950 to 1979 he was one of the inventors of digital power flow solutions for electric power. He initially created what is commonly referred to today as the Gauss Seidel Power Flow method. However, the solution was slow and had difficulty solving large models. Further work led Tinney to develop the sparse matrix techniques used to speed up calculation. The sparse matrix techniques reorganized the matrix models of the power flow solution.

A majority of the software used to analyze the Transmission systems today is based on his sparse matrix approach. Tinney and BPA colleague H.W. Dommel published a paper explaining the technique in IEEE Transactions Power Apparatus and Systems (vol. 87, pp. 1866-1876.) The paper has since been voted the fifth-most important paper in power system engineering of the 20th century.

His other contributions include work on the Optimal Power Flow (OPF) technique which is used in calculating the Locational Marginal Prices (LMPs) on the PJM, NYISO, ERCOT and CAISO energy markets. The energy markets would not operate in the way they do today without the use of OPF.

Tinney is an IEEE Life Fellow. In 2011 he received the IEEE Medal in Power Engineering "For leadership in the technology upon which the modern computer analysis of electric power system networks is based." After retiring from BPA he continued working as an independent consultant for vendors of power systems software.

https://ethw.org/William_Tinney

<https://www.bpa.gov/news/newsroom/Pages/Long-retired-BPA-engineers-achievement-lasts-a-lifetime.aspx>