

Songyot Boonpan 2008: Determination Methodology of Harmonic Distortion Standards. Master of Engineering (Electrical Engineering), Major Field: Electrical Engineering, Department of Electrical Engineering. Thesis Advisor: Associate Professor Kiatiyuth Kveeyarn, Ph.D. 59 pages.

In this thesis, harmonic distortion standards in power systems of England, France, United States of America, Germany and Sweden are studied. It is found that all of the countries strongly emphasize on %THD<sub>v</sub>, which is an index to evaluate harmonic quantity. However, the %THD<sub>v</sub> limits specified in the standards of all countries are different at all voltage levels.

This thesis discovers the determination methodology of harmonic distortion standards of England, France, United States of America, Germany and Sweden. From an analysis of 3-phase short circuit capacity in power systems and power converter sizes used in power systems of each country, the determination methodology of harmonic distortion standards of each country is based on the same procedure.

From the results, the harmonic distortion standard of each country is up to the configuration of power systems, and power converter sizes installed at difference levels of voltage of transmission/distribution systems.

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