

Akaraphon Poomahapinyo 2014: The Radiant Time Series Cooling Load Calculation Program for Thailand. Master of Engineering (Mechanical Engineering), Major Field: Mechanical Engineering, Department of Mechanical Engineering. Thesis Advisor: Assistant Professor Pollakrit Kritmaitree, Ph.D. 112 pages.

This research is to develop the “Radiant Time Series Cooling Load Calculation Program for Thailand”, the crucial information for calculating cooling load, like latitude, longitude, height from sea level, humidity and constructing material, is always conducted. The users just put the necessary information to the calculating program. The result will be showed immediately. Because it’s not necessary to build the buildings models for calculating, the users can get the result of cooling load quickly, precisely and conveniently.

After finishing in developing the calculating program of cooling load it is compared with the “Energy Plus” program, which was developed by the “US Energy Ministry” and was used to calculate energy from all over the world, including in calculating “cooling load”.

The comparative result in calculating cooling load of these 2 programs, in the same day, place and condition, found that cooling load tended to be on the same direction in every month, cooling load tended to be increased after the sun rises and reached the highest point in the evening. After that time, cooling load tended to be quickly decreased in the late evening and to be slowly decreased at night until the sun rises in the morning.

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Student’s signature

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Thesis Advisor’s signature