Procedure for developing Criteria_3 for Regional Load Growth Factor

- Each TOS daily load (gwh) is calculated by adding all 24 hourly loads and dividing it by 1000.

- For Tos that use only one weather station Average temperature (avgtemp) can be calculated by taking the average of minimum (min) of all 24 hours and maximum (max) of all 24 hours temperature for that station.

  For the Tos who use more than one weather station, maximum temperature (MAX), is calculated as the summation of the product of weights and max for all the stations. Minimum temperature (MIN) is calculated as the summation of the product of weights and min for all the stations. Then the avgtemp is calculated by taking the average of MAX and MIN.

- Cooling degree days (cdd) are calculated by deducting 65 from avgtemp (avgtemp – 65) and heating degree days (hdd) are calculated by deducting avgtemp from 65 (65 – avgtemp). Monthly hdd, monthly cdd and monthly gwh are calculated by summing their daily values for each month.

- Monthly Average cdd and Monthly average hdd are calculated by taking the average of monthly cdd and monthly hdd respectively across the years for the same month.

- TO specific Seasonal and Trend variables are created.

- Gwh Is regressed on monthly dummies, hdd, cdd, and trend variables
  $$gwh_t = \beta_0 + \beta_1\,hdd_t + \beta_2\,cdd_t + \beta_3\,(MonthDummy * DD)_t + \beta_4\,trend_t$$
  For most of TOs t varies from January 1975 to September 2003.

- Weather normalized GWH is determined by using the coefficients from above regression:
  $$wngwh = gwh - (\beta_1 * (hdd - avghdd) + \beta_2 * (cdd-avgcdd) + \beta_3 * (dechdd + avghdd)).\ [1]$$

- Monthly data is converted to quarterly data and merged with economy.com data.

- TO specific variables like annualtrend dummy variable and lagdependant variables are created.

- Variables like number of days, quarterly income and quarterly population variables are created for all TOs.

- wngwh is regressed on income and other dummy variables and forecasted for the next year.

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[1] For each month use appropriate dummy for that particular month

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