

44. VEDO Design Peak Day Forecast

1. VEDO’s Design Peak Day Forecast uses a linear regression based model. The forecast is updated annually and forms the basis for any capacity contract changes the company may make. The VEDO Working Group will be provided the revised forecast for their review and approval prior to any contract changes being effectuated.
2. The linear regression model variables and their model coefficients include:

Variable	Coefficient (in Dth)
CONST	70,611
PkDayHDD65	2,720
PkDayHDD55	3,343
Lag_HDD55	1,051
WinterWind	2,079
Dayton GDP	6,993

- a. HDD65 and HDD55 - captures the non-linear relationship between average temperature and demand.
 - b. LagHDD55 - captures the impact of the previous day temperature
 - c. WinterWind - captures the effect of the winter wind speed
 - d. Dayton GDP – captures the relationship between deliveries trends and economic health as measured by regional (Dayton-area) Gross Domestic Product.
3. The 2020-2021 VEDO peak day has -14.5° F average temperature, 14° F previous day average temperature, 11 mph average winter wind speed, and 2.23 GDP.

The equation is:

$$\text{CONST} + \text{CurrentDayTempImpact} + \text{LagDayTempImpact} + \text{CurrentDayWinterWindImpact} + \text{GDPImpact}$$

$$= 70,611 + 216,247 + 232,329 + 43,095 + 22,871 + 15,595$$

4. 2021-2022 VEDO Peak Design Day demand (in Dth)

	2021-22 (in Dth)
Total Peak Day Demand	600,749
Transportation Demand	161,375
Net Sales	439,374