

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	83,081
PkDayHDD65	3,140
PkDayHDD55	2,972
Lag_HDD55	1,094
WinterWind	1,891
Dayton GDP	2,535

- 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 2023-2024 VEDO peak day has -9° F average temperature, 15° F previous day average temperature, 10 mph average winter wind speed, and 2.69 GDP.

The equation is:

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

$$= 83,081 + 232,341 + 190,177 + 43,766 + 18,906 + 6,820$$

4. 2023-2024 VEDO Peak Design Day demand (in Dth)

	2023-24 (in Dth)
Total Peak Day Demand	575,090
Transportation Demand	149,784
Net Sales	425,306