

## **Position Change of Variable Inlet Guide Vanes (VIGVs) and its Effect on Gas Turbine Performance<sup>\*</sup>**

**Dr. Eng. Easa Morad<sup>\*</sup>**

---

### Abstract

At design conditions the performance of gas turbine power plant is optimal, but at operation conditions the performance decreases and efficiency drops and then new actions should be done to improve performance. One of these actions is changing gas turbine geometry, variable inlet guide vanes to change the air flow and keep exhaust gases at specific temperature when the gas turbine capacity changes at fixed revolutions per minute (r.p.m).

This research aims at studying the effect of variable inlet guide vanes on the performance of gas turbine at operation conditions (when gas turbine capacity is at specific ambient temperature and when gas turbine capacity is fixed and ambient temperature changes).

---

Key words: Gas Turbine, Variable Inlet Guide Vanes, Inlet Angel

---

<sup>\*</sup> For the paper in Arabic see pages (151-158).

<sup>\*</sup> Ass. Prof. in Mechanical Engineering of Mechanical and Electrical Engineering – Damascus University