

CNT-3000EA / CNT-6000EN standby gas turbine generator sets

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1. INTRODUCTION

In recent years, the capacity requirements of major facilities (intelligent building, data center, waterworks facilities and drainage facilities) in Japan's metropolitan areas have been increased. Due to the critical roles played by such facilities, standby generator sets must be highly reliable and able to provide significant amounts of electric power in the event of a blackout.

On the backgrounds, our company has newly developed gas turbine which generates 3000kVA and "CNT-3000EA / CNT-6000EN standby gas turbine generator sets" which are used of one gas turbine (single-type) and two gas turbines (twin-type).

Our company has started to development in 2006, sales started in 2009. After first set delivery in 2011, delivery results has become more than 40 sets combined single-type and twin-type delivery.

2. THE FEATURE OF GENERATOR SET

Characteristic features of these generator sets are shown below.

1) 6000kVA generation capacity twin-type are largest in domestic standby gas turbine.

2) As single-type generator set, 3000kVA generation capacity is also largest capacity in domestic standby gas turbine. (Existing products is twin-type of 1500kVA gas turbine.)

3) In conformity to fire defense law in Japan, the generator can supply electricity within 40 seconds.

4) Even if the start command is reissued after during the engine stops, the system can still start up again in 40 seconds.

5) As corresponding to BCP, these generator sets can support dual-fuel (both liquid and gas) system.

About feature 1) and 2), standby generator sets may need to be installed in a wide range of locations ranging from ground level or underground to a building roof. This make to be low weight. These sets are domestic largest output and lighter by the structure optimization, such as enclosure, suction silencer and engine bed. In the example of 3000kVA, it has become a conventional ratio of about 10% of the weight reduction. Figure 1 shows CNT-6000EN generator set. Figure 2 shows Cut view of CNT-6000EN generator set.

About feature 5), since the Great East Japan Earthquake, dual-fuel of liquid and gas fuel has been attracting attention from the point of view of supply and procurement of fuel for BCP (Business Continuity Plan) for the affected company. Therefore, these sets can respond to the dual-fuel system by exchanging only the fuel injector. Since auxiliary equipment, such as gas fuel control valve and shut-off valve, are compactly installed in the generator set enclosure, the size of generator set is same size as that of the liquid fuel only. Figure 3 shows fuel switching (Gas->Liquid) trend data.

3. CONCLUSION

Recent years, one of the transition period are coming with respect to energy supply by such situation, increasing the capacity of electric facilities in metropolitan areas, corresponding to the BCP at the time after the Great East Japan Earthquake and use of renewable energy. As the most important items of the stable power supply in an emergency and the consideration of the environment, our company will continue to develop generator sets adapted to these market needs and create new added values in market.



Figure 1 CNT-6000EN generator set

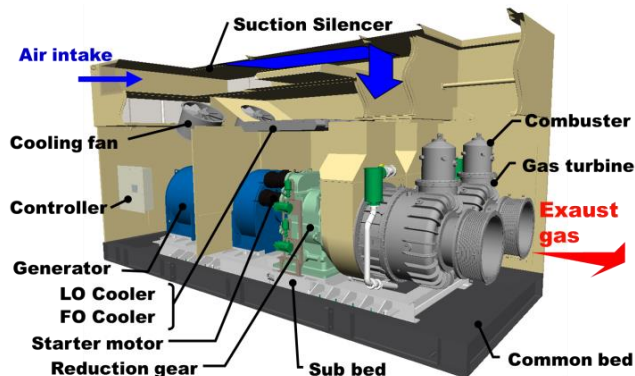


Figure 2 Cut view of CNT-6000EN generator set

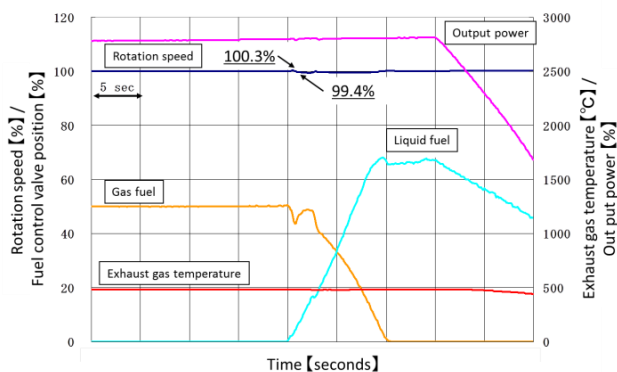


Figure 3 Fuel switching (Gas->Liquid) trend data