ABSTRACT

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Program Studi : **Teknik Industri**
Judul : **Applied of Re-Staging and Striping down method on Gas Turbine Compressor (Boost Compressor) to increasing value of Reliability, Availability and Production Capacity in Pertamina Hulu Energi ONWJ (PHE ONWJ) Bravo station.**

Pertamina Hulu Energi, Offshore West Java, Ltd. (PHE ONWJ Ltd.) is peripatetic oil and gas production to exploration crude oil and gas, becoming one of the national's economy supporting, to ensure availability of fuel and gas needs for national consumption requirements.

In the middle of effort to face competition emulation which also progressively to improve goals of oil and gas production target, hence need to have a good strategy for its attainment. One of the main equipments used for daily support production oil and gas namely is turbine gas compressor.

In the effort to accomplishment of customer requirements hence need required special attention to turbine gas compressor equipment how to earn remain in reliable and continuous equipments in order to sustain in oil and gas production be ready in everyday. With applying of maintenance management which is good to be expected will able to guarantee mainstay storey and optimum reliable function. Applying of corrective maintenance use re-staging methods mainly jobs is by changing counted of 36 critical parts and striping down methods mainly jobs is replace counted about 26 of critical parts.

Applying of re-staging methods have successfully to realize bring the effort that is increasing the value's of reliability about 18.84 %, availability about 20% and striping down methods has increasing the value's of reliability about 7.5 %, no increasing of availability of turbine gas compressor equipments due to used as standby unit. Improvement in production capacity of oil about 800 BOPD and gas about 6 – 9 MMSCFD in PHE ONWJ Bravo station.

Keywords : *Crude oil, Corrective Maintenance, maintenance management, Re-staging*, *Striping down, Reliability, Availability, gas turbine compressor*.

ABSTRAK

Nama : **Muh. Arif Triyanto**
Program Studi : **Teknik Industri**
Judul : **Penerapan metode *Re-staging* dan *Striping-down* pada unit *Gas Turbine Compressor (Boost Compressor)* untuk meningkatkan nilai *Reliability, Availability* dan Peningkatan Kapasitas Produksi di Pertamina Hulu Energi ONWJ (PHE ONWJ) Bravo Station".**

Pertamina Hulu Energi, Offshore West Java, Ltd. (PHE ONWJ Ltd.) adalah perusahaan yang bergerak dalam bidang produksi dan eksplorasi minyak mentah (*crude oil*) dan gas bumi, yang menjadi salah satu penopang perekonomian nasional terhadap kebutuhan bahan bakar minyak (BBM) dan gas.

Ditengah upaya menghadapi persaingan yang semakin ketat, pemenuhan kebutuhan *customer* dan tuntutan untuk semakin meningkatkan target produksi maka diperlukan strategi untuk pencapaiannya. Salah satu peralatan utama produksi yang digunakan adalah unit *gas turbine compressor*.

Dalam upaya terhadap pemenuhan kebutuhan *customer* maka perlu dilakukan perlakuan khusus terhadap unit *gas turbine compressor* agar tetap handal dan kontinue sehingga tetap dapat menopang produksi minyak dan gas setiap harinya. Dengan penerapan *maintenance management* yang baik diharapkan akan dapat menjamin tingkat kehandalan dan ketersedian yang optimum. Penerapan *corrective maintenance* menggunakan metode *re-staging* yang dilakukan dengan cara mengganti sebanyak 36 (tigapuluh enam) komponen kritis dan *striping down* dengan cara mengganti sebanyak 26 (duapuluh enam) komponen kritis.

Penerapan metode *re-staging* telah berhasil mewujudkan upaya tersebut yaitu dengan naiknya nilai *reliability* sebesar 18.84 % dan *availability* sebesar 20%, sedangkan pada penerapan metode *striping down* terdapat kenaikan nilai *reliability* sebesar 7.5 % dan tidak terdapat peningkatan *availability* skarena unit *gas turbine compressor* digunakan sebaga standby unit setelah tindakan. Terjadi peningkatan kapasitas produksi minyak sebesar 800 bph dan gas sebesar 6-9 juta kubik per hari di PHE ONWJ, Bravo station.

Kata kunci : *Crude oil, Corrective Maintenance, maintenance management, Re-staging*, *Striping down, Reliability, Availability, gas turbine compressor.*