

**REPORT ON THE APPLICATION OF:**  
**MSP METAL TREATMENT TECHNOLOGY**  
**ON A 12V32 WATSILAR VASA ENGINE AT TGSA**  
**GUAYAQUIL ECUADOR ON OCTOBER 1<sup>ST</sup> 2014**

NAME OF POWER PLANT: - TERMOGUAYAS GENERATION S.A GUAYAQUIL ECUADOR

TESTED ON 12V32 WATSILA VASA ENGINE (GEN SET)

GENERATION CAPACITY 4.5 MW ISO/GEN SET

AGE OF GEN SET – 24 YEARS

GENERATION CAPACITY AFTER OVERHUAL : - 3.7MW/GEN SET

TOTAL NAME PLATE CAPACITY OF POWER PLANT : 211 MW

COMPRISED OF : 20 X 12V32 WARTSILA VASA ; 2 X 18V 32 WARTSILA VASA ; 8 X 165W 280 WARTSILA STOCK; 26 X CAT 3616

BRAND NAME OF LUBRICANT USED: - TOTAL

TEST PERIOD; OCTOBER 2014 TO MARCH 2015 (6 MONTHS)

**PERFORMANCE BEFORE TESTING WITH MSP MTT (Metal Treatment Technology)**

RUNNING HOURS OF ENGINE BEFORE PBMTTC TESTING :- 12000HRS

- DUE FOR OVERHUAL
- GEN SET GENERATING AT 2.8 MW

## PERFORMANCE AFTER INTRODUCTION OF MSP MTT

- GEN SET GRADUALLY INCREASED CAPACITY TO 3.7 MW ( Within 7 days)
- GEN SET WAS KEPT RUNNING UNTIL 20,000 RUNNING HRS WITHOUT LOSING GENERATION CAPACITY

UPON SHUT DOWN OF THE ENGINE AND INSPECTION OF THE CRANK SHAFT CHAMBER, IT WAS FOUND TO BE CLEAN WITH NO BLACK CARBONISED OIL.

WARE OF THE MOVING PARTS WAS FOUND TO HAVE VERY MINIMAL WARE UPON SHUT DOWN.

## CONCLUSION

WITH THE ABOVE RESULTS, WE CONCLUDED THAT BY APPLYING MSP MTT TO THE ENGINE WE WILL MAKE A CONSIDERABLE SAVINGS ON :-

- MAINTENANCE COST DUE TO LONGER LIFE SPAN OF THE MOVING PARTS AND CLEANER ENGINE COMPARTMENTS.
- EXTEND THE OVERHUAL RUNNING HOURS TO 18,000HRS.
- INCREASE OF PLANT GENERATION CAPACITY.

## IMPLEMENTATION

OVER A PERIOD OF SIX MONTHS, WE APPLIED MSP MTT TO ALL THE ENGINES BRINGING ABOUT NOT ONLY SAVINGS IN MAINTENANCE COST BUT

WE WERE ABLE TO INCREASE PLANT CAPACITY BY 7.7%

- AVERAGE CAPACITY OF ENGINE BEFORE APPLICATION OF MSP MTT WAS 3.25MW
- AVERAGE CAPACITY OF ENGINE AFTER APPLICATION WAS 3.5 MW (INCREASE OF 0.25MW)

THE ABOVE TEST WAS CONDUCTED BY ME AND MY MAINTENANCE TECHNICAL TEAM.



MR. SEBASTIAN FERNANADEZ  
PLANT GENERAL MANANGER  
TGSA GUAYAQUIL.  
( 2012 – 2015)