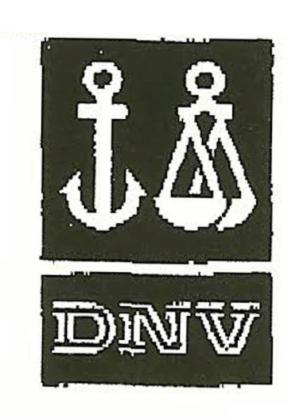


Rep. No.:

GEN-12-1870-1



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DET NORSKE VERITAS

Survey Report

Eastproject request, on behalf of Tanstarr Europe Ltd, the undersigned Survattend on 2012-11-19 and on 2012-11-26 in F.lli Stamegna (LT – Italy) premises in order to effects of BOR-POWER nano-compount added in lub oil of Diesel Engine CAT s.n. 78Z02123 360 kw) assembled with generator Caterpillar with max power 320 kw, considered for these to 100 % of max, load.

The testing has been carried out following Eastproject procedure/instructions, runnin nentioned diesel-generator first without nano-compound for two (2) hours at 100% maximum keeps and noting following engine parameters:

- Diesel consumption: 91.40 lt/h

(average of 5 measurements taken)

- Water engine temperature: 91.2 °C (average of 5 gauging taken)

- Smoke emissions (values calculated as for DLGSL 152/06 correction and normalized):

o $CO_2 = 4.52 \text{ mg/Nmc}$;

o CO = 742 mg/Nmc;

o NOx = 771 mg/Nmc;

o Total powders = 40.873 mg/Nmc.

Then one (1) litre of nano-compount has been added in diesel engine lub oil and following runnin has been carried out:

- two (2) hours running at 50% of max power;
- three (3) hours running at 75% of max power;
- twenty one (21) hours running at 100 % of max load (320kw).

During running at 100% of max load following engine parameters noted:

- Diesel consumption: 90.82 lt/h (average of last 2 running hours with 5 measurement

Water engine temperature: 90.6 °C (average of last 2 running hours with 5 gauging taker Smoke emissions (values calculated as for DLGSL 152/06 correction and normalized):

o $CO_2 = 3.81 \text{ mg/Nmc};$

(-15.0% reduction)

o CO = 587 mg/Nmc;

(-20.0% reduction)

o NOx = 677 mg/Nmc;

(-12,0% reduction)

o Total powders = 0.387 mg/Nmc.

(-99.0% reduction)

Digitally Signed By: Jaccarino, Marcello

DNV Surve; Marcello lacci

Itri (LT-Italy) on 2012-11-26

aly) on 2012-11-26 E Location: DNV Naples, Italy

Relevant Note:

Signing Date: 2013-01-16

- Diesel engine used not provided by Lambda Sensor and diesel consumption differences not signifi

- Lub oil OMV truck LD SAE 15W-40 used in the Diesel Engine: 38 lt.;

- Diesel quality has been maintained unchanged during total testing as confirmed by F.Hi Stamegna;

- Electrical load applied to the generator totally resistive;

- Diesel consumption measurement: based on time taken for 2lt diesel consumed, (measure estimation tolerance: 0.7%);
- Instrumentation used for smoke emissions: Ecocheck s.n. 166 verified calibrated;
- Smoke emissions taken by GHEA s.r.l. as for relevant emission report issued on 2012-12-06;

- Temperature taken as for diesel engine instrument