

## Battery Regenerating Test Report

Place : Globe Aurora MSC in Quezon City

Period : 2011-01-11 ~ 2011-01-13

Battery : FIAMM 12 UMTB 105 (12V, 105A)

### Battery Status and Selection

- Status : most of junk batteries at Aurora MSC are left in open outdoor .
  - ⇒ Around 50% of FIAMM Batteries in outdoor have been damaged or melted owing to over Voltage & high resistance inside.
- Battery Selection :
  - ⇒ not damaged 4 FIAMM Batteries from yard.
  - ⇒ Over 9 V of Charging Voltage

### Procedure for Battery Test

1. 1<sup>st</sup> Discharging and record of RC(Reserve Capacity) Time
  - ⇒ Discharging Standard : 3hour/Cutting Voltage 10.5V/26.6A based on FIAMM Battery Specification Table
2. Checking Internal resistance
3. Regenerating and record the checking result(SoC; Status of Charging, Internal resistance)
4. 2<sup>nd</sup> Discharging Test to check Battery Real RC.

### Test Result

1. Battery No. F1 is initially discharged and regenerated.
  - ⇒ Status of Battery : less negative C grade
  - ⇒ No. F1 was bulged because of generating gas and occurring high temperature inside during operating at site before.
  - ⇒ To prove the recovering capability of ZEUS Regenerator for very low grade battery
  - ⇒ Separate regenerating and RC Test
  - ⇒ Expected target rate for F1 : over 70%
2. Rest of F2, F3, F4 Batteries are discharged respectively and will be regenerated at the same time on 12 Jan.

No.	1 <sup>st</sup> Discharging		Regenerating		RC Test after Regenerating	Remarks
	RC Time	Internal Resistance	Status of Charging V	Internal Resistance 5.08mOhm		
F1	55M(30.5%)	17.02mOhm	13.07V	6.72mOhm	136M (75.5%)	
F2	98M(54,4%)	11.24mOhm	13.04V	4.66mOhm	---	At the same time
F3	88M(48.8%)	12.36mOhm	13.10V	4.25mOhm	151M (83.8%)	
F4	88M(48.8%)	14.40mOhm	13.10V	4.63mOhm	150M (83.3%)	

⇒ As regenerating result of F2, F3 and F4, Charging status and Internal Resistance for each Batteries are approximately same each other.

✓ Internal Resistance of 12v FIAMM 100a : 5.6mOhm

⇒ Since discharging Test result of F3 is identical to F4 as above test result table, the discharging test for F2 is skipped; it will be assumed that discharging test for F2 is same as F3, F4.

● As the purpose for regenerating test of F1 is to check whether ZEUS Regenerator can cover the bulged and un-chargeable battery, F1 cannot be connected with F2, F3 and F4 Batteries for Dummy Load Test at Globe test site.

⇒ Selected new junk battery (F5) from yard to connect with F2, F3 and F4

⇒ Discharging Test of F5

- Discharging : 17M (RC : 9.4%), Internal Resistance 14.48 mOhm

Regenerating again for F3, F4 plus F5

- Charging status

F3	F4	F5
----	----	----

- Internal Resistance

F3	F4	F5
----	----	----

Dummy Load Test result on 14<sup>th</sup> Jan.

- Cutting Voltage

- Current

- Total discharging Time