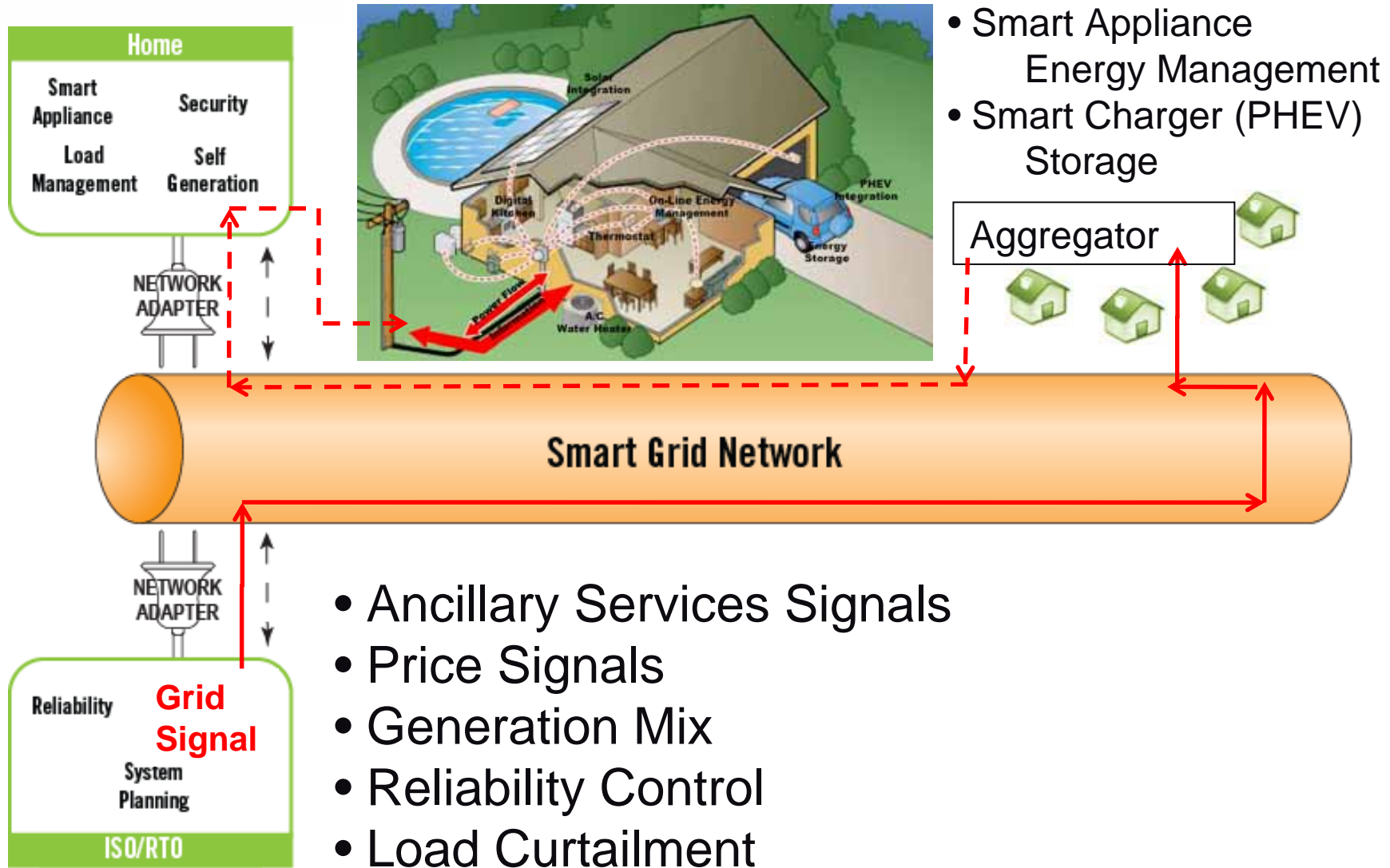




NARUC 121ST ANNUAL CONVENTION, 2009

FERC/NARUC Collaborative on Smart Grid

Ken Huber
Senior Technology & Education Principal
610-666-4215
huberk@pjm.com

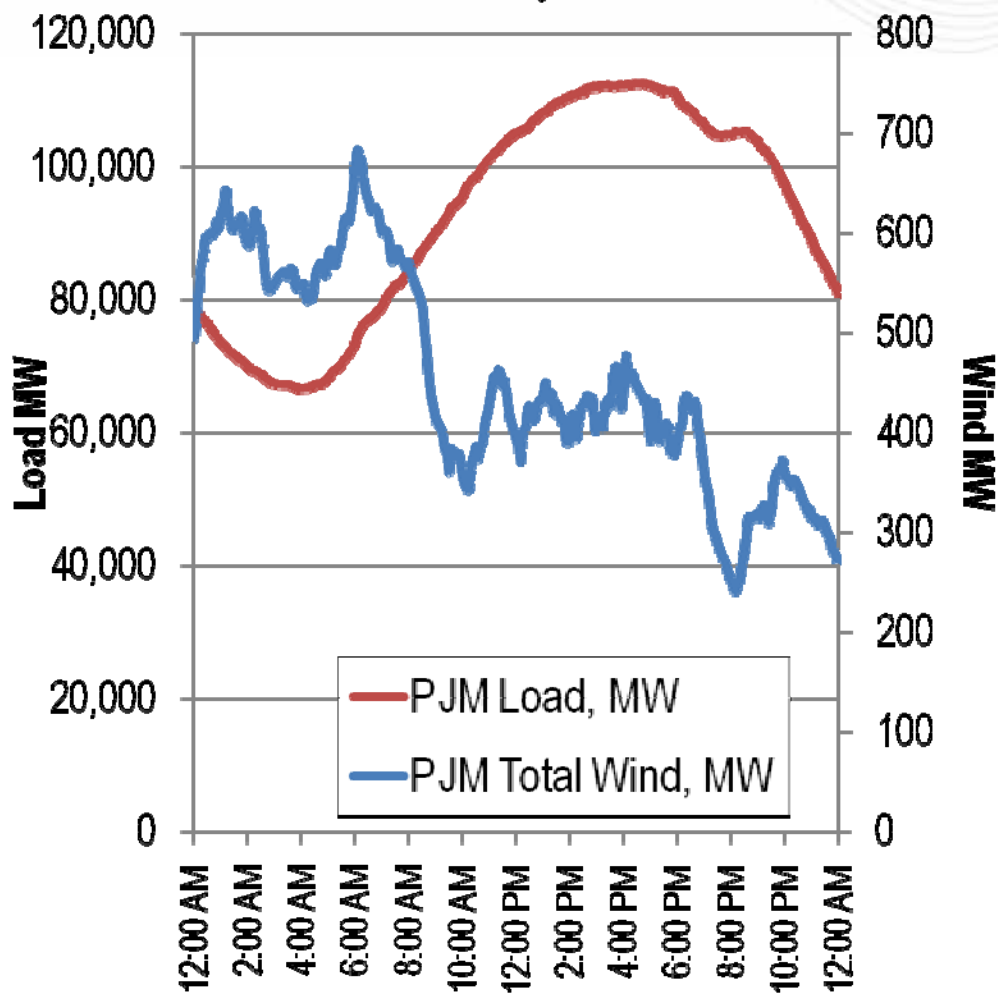




PJM Load and Wind Resources – August 26, 2009

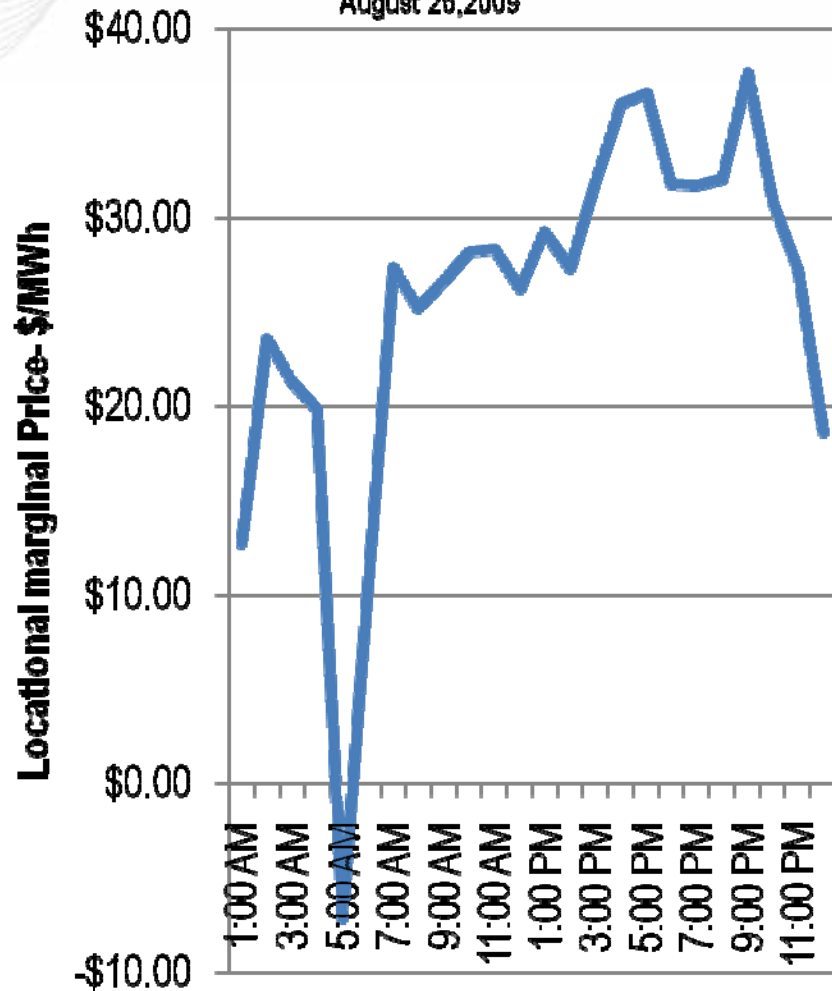
PJM Load and Wind Contribution

August 26, 2009



Chicago LMP

August 26, 2009





Vehicle Savings -- Economic Charging

Assumptions

- 1,000,000 PEV vehicles by 2015
- ~18% of U. S. population is within the PJM territory
- ~ 180,000 PEV vehicles in the PJM territory
- ~ 33** miles traveled per vehicle per day
- ~ Average vehicle fuel usage: 22** mpg
- ~ No tax compensation



Daily cost per PEV Vehicle

Gasoline: 33 miles/day * \$3.00 /gal // 22 miles/gal = \$4.50

Electric: 33 miles/day * \$.07 / kWh // 4 miles/kWh = \$0.60

Annual cost/savings

Cost:

Gasoline: 365 days * \$4.50 /day = \$1650

Electric: 365 days * \$0.60 /day = \$220

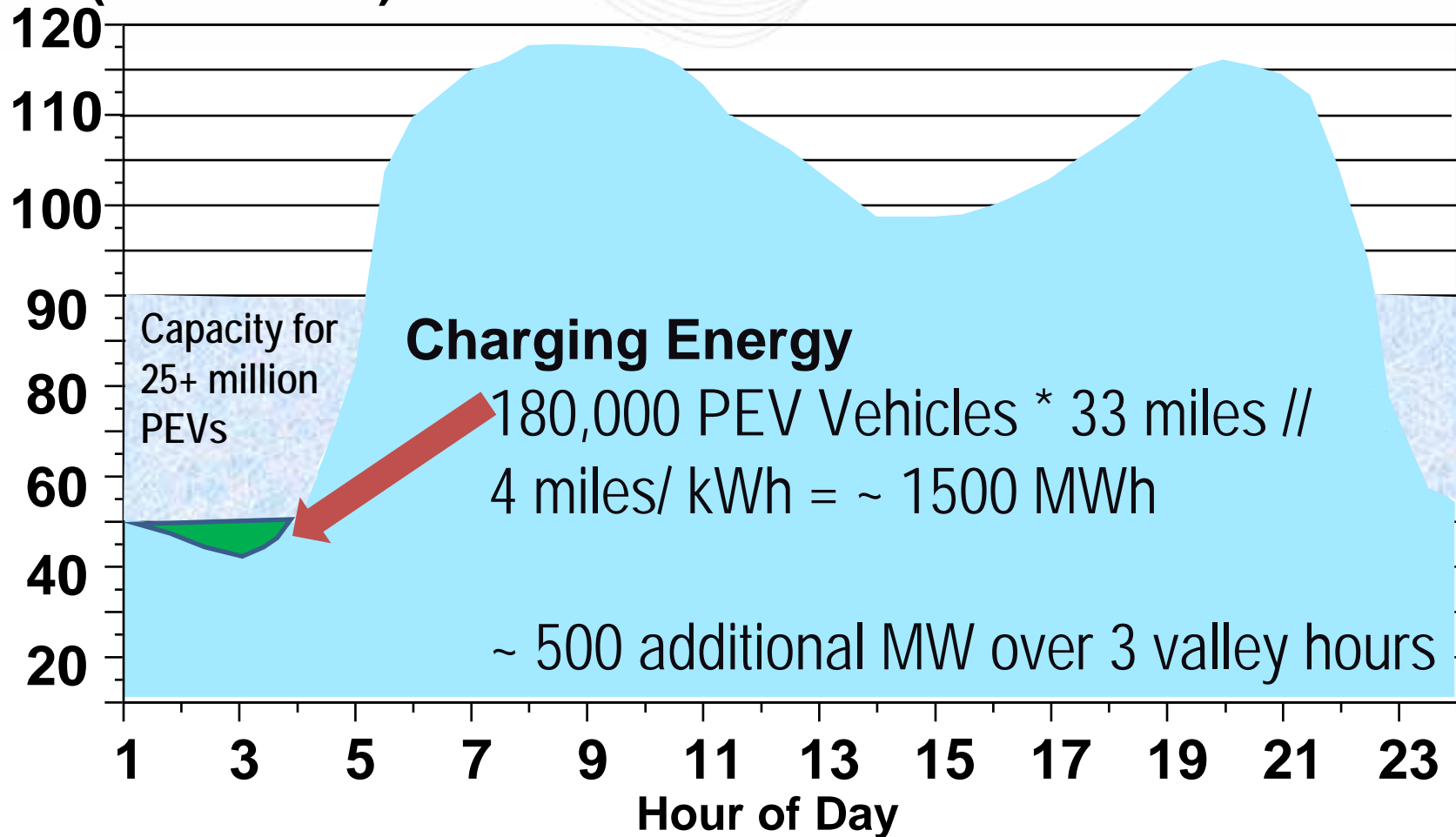
Savings:

~ **\$1400 annually per vehicle**

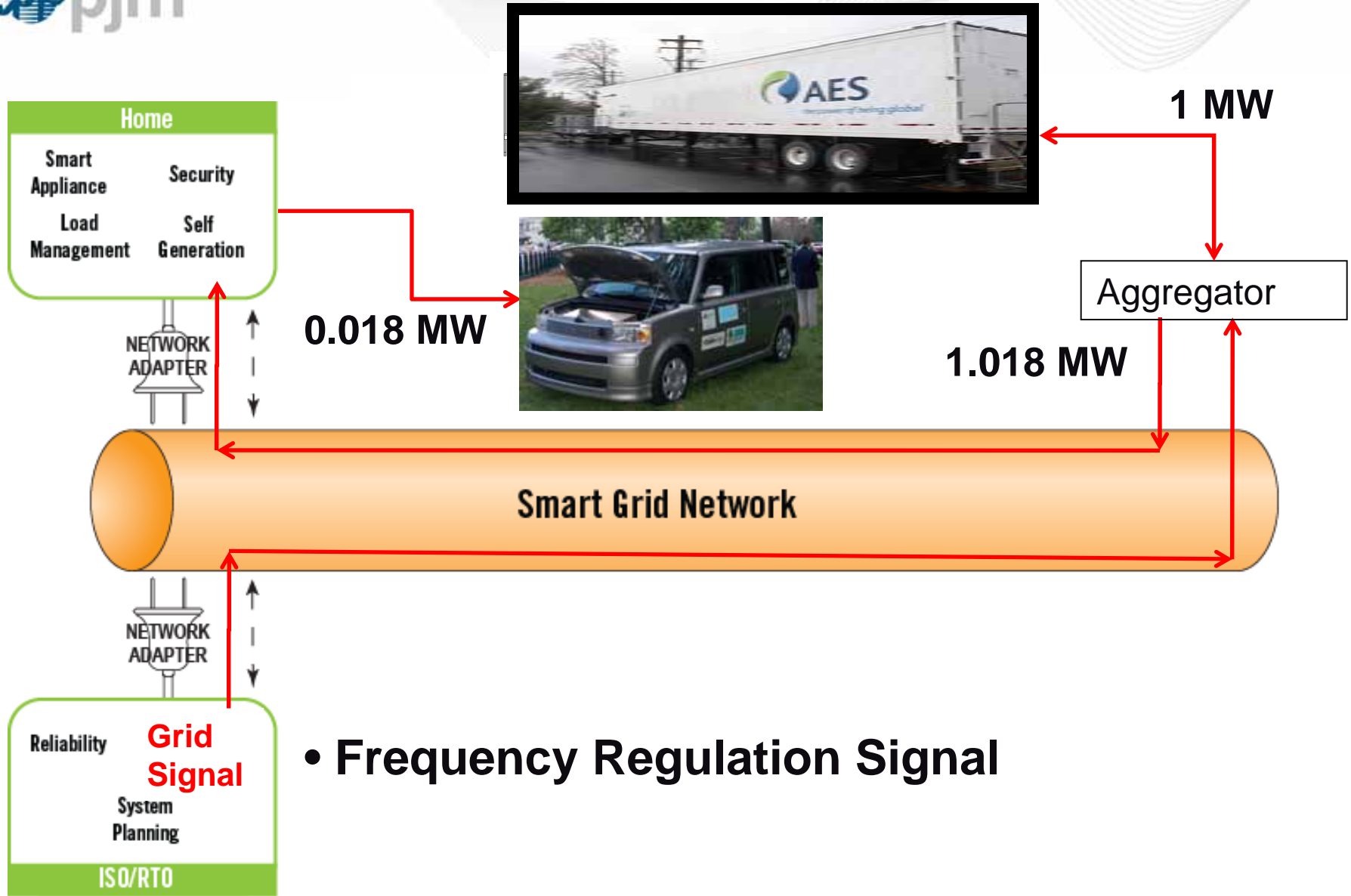
180,000 vehicles (within PJM) = ~ \$250,000,000 annual

** U.S. Bureau of
Transportation Statistics

Load (MW x 1000)



Frequency Regulation -- "Cash Back" for MAGICC



• Frequency Regulation Signal