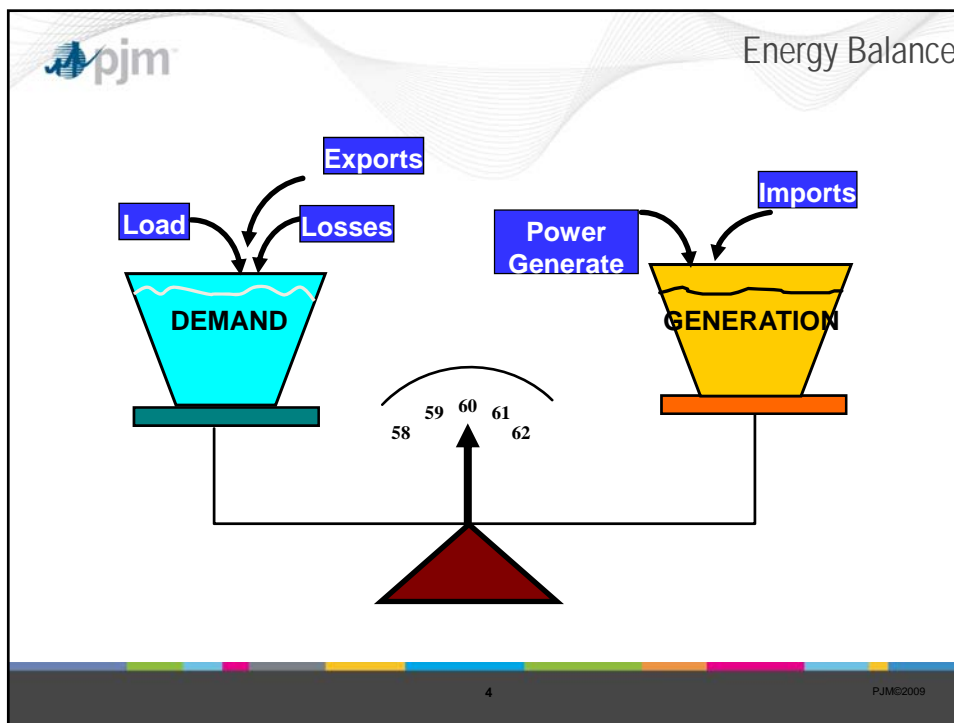
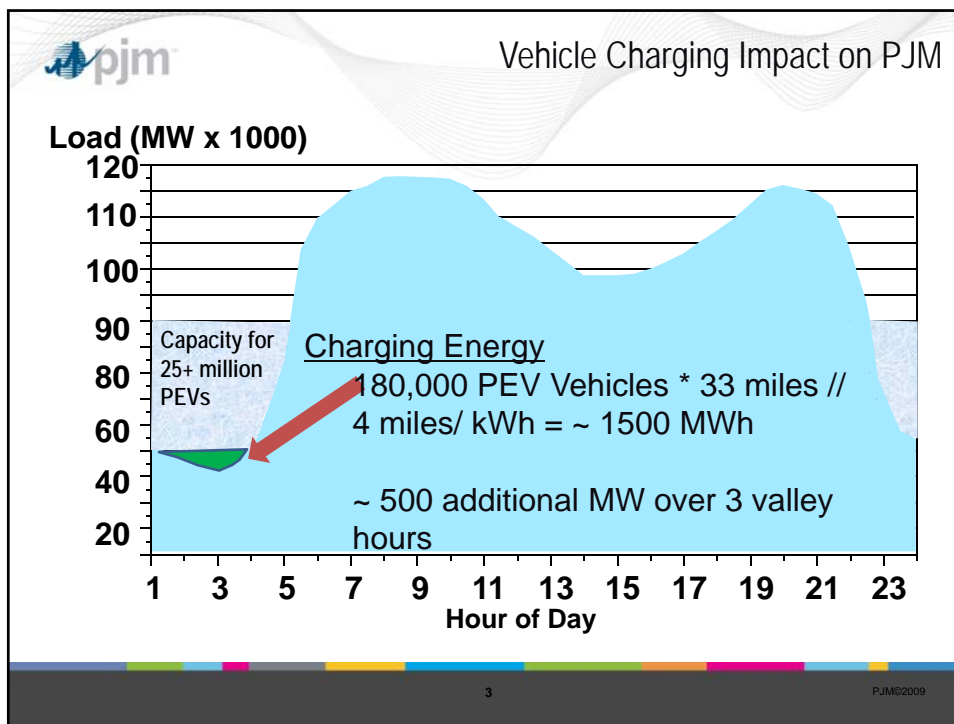
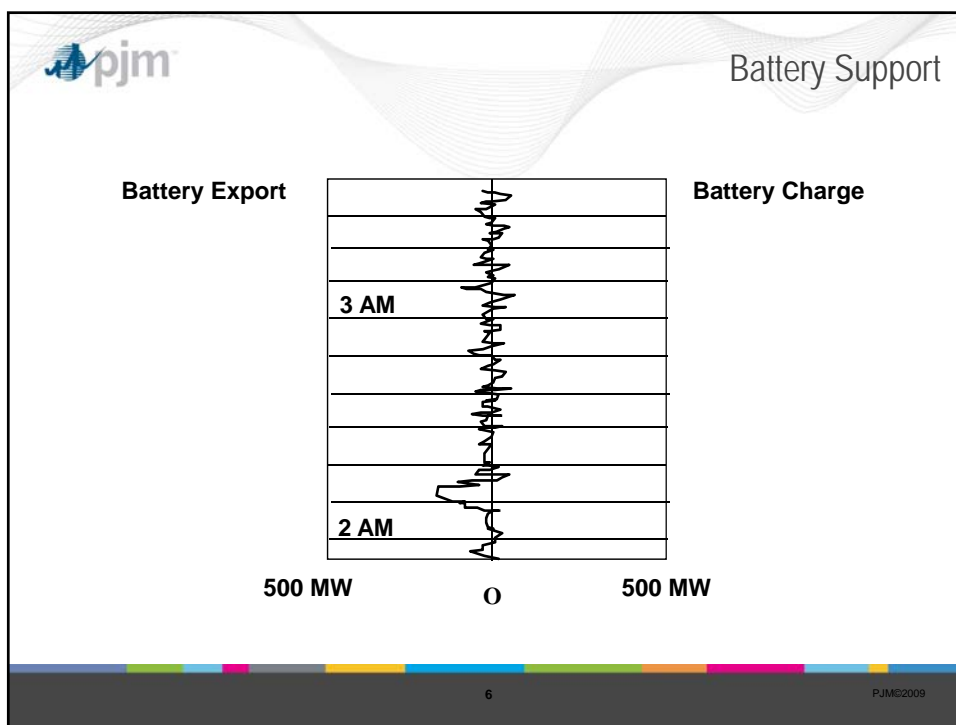
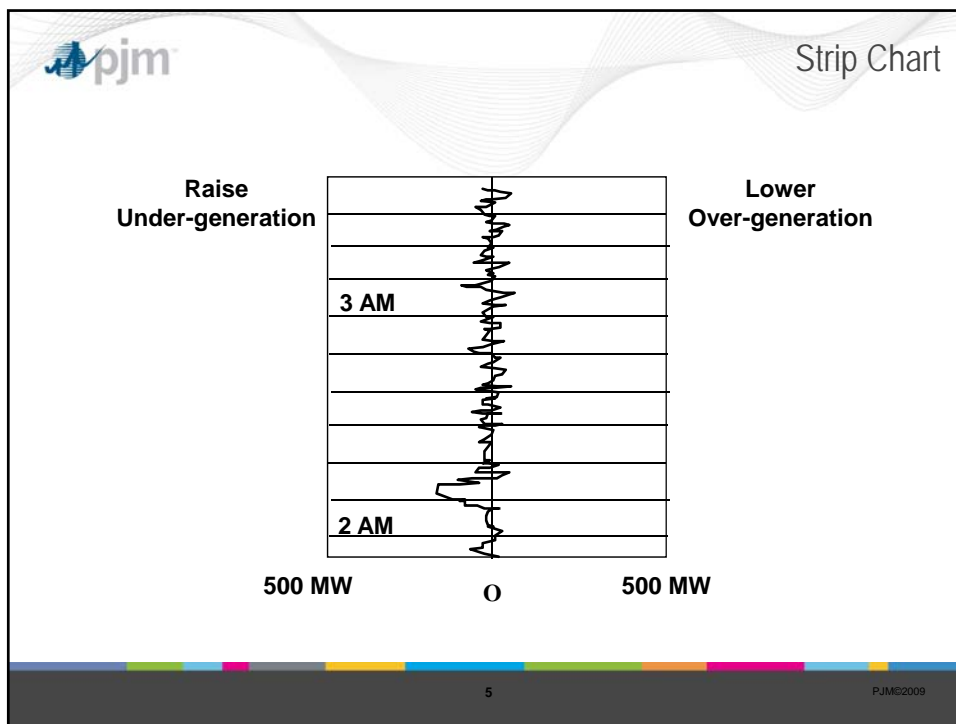

 A Discussion of the Grid Today

- Impact of Intermittent Generation
- Need for Storage
- Available Storage (Today and Future)
- Value of Electric Vehicles

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 Can One Electric Vehicle Help?


PJM Grid requirement for Frequency Regulation

- 1% of Today's Peak Load
- Today's Peak Load is 100,000,000 Kilowatts
- **Today's Frequency Regulation Requirement = 1,000,000 Kilowatts**



All Electric Vehicle  
15 Kilowatts Power Output

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 Can 20,000 Electric Vehicle Help?


PJM Grid requirement for Frequency Regulation

- **Today's Frequency Regulation Requirement = 1,000,000 Kilowatts**

20,000 All Electric Vehicles (15 Kilowatt Power Output) =  
300,000 Kilowatts

**1/3 of the Frequency Regulation Required in PJM**

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 So, How to Quickly Get 20,000 Electric Vehicles Plugged In?

**Vehicle Fleets Could Be the Answer**

- Why Fleet Vehicles?
  - Consistent Route
  - Consistent Schedule
  - Plugged In at the Same Location Every Day

**Fleet Prospects**

- School Busses
- Trash Trucks
- ???

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 So, How to Quickly Get 20,000 Electric Vehicles Plugged In?

**How About –**



**the United States Postal Service**

- 144,000 Local Delivery Vehicles
- 10-11 MPG
- Parked at Consistent Locations
- Parked 12 hours Daily

*H. R. 4399: 20,000 V2G capable electric drive  
United States Postal Service Long Life Vehicles*

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