

# Generation Initial Training Program

## eDART Intro & Gen Checkout

PJM State & Member Training Dept.

## Objectives



Students will be able to:

- Identify the tools used to participate in the various PJM markets

# eDART

- eDART stands for electronic Dispatcher Applications and Reporting Tool
  - A suite of electronic applications used to facilitate dispatcher-to-dispatcher communications, along with other engineering communication and coordination functions with regards to:
    - Unit outage requests
    - Updates to reactive capability curves (D-curves)
    - Voltage regulator statuses among other generation and transmission functionalities



# eDART

- eDART's benefits to PJM membership include:
  - A quick, 24/7 process for outage and model change request submittal
  - Easy access to comprehensive information
  - A simple and user-friendly online interface
- Through eDART, a user can filter outage information based on:
  - Start date, end date, ticket number and other criteria to help ease the dissemination of information to help make a comprehensive range of reports



# eDART Applications

## Production

- Feedback
- My eDART
- Upload
- Download
- Hydro Calculator
- Gen. Tickets
- Trans. Tickets
- Instantaneous Reserve Check
- Minimum Gen. Report
- PJM Status Report
- NERC Data
- Facility Data
- Online Help
- Logout

Used to schedule the output of Susquehanna River Hydroelectric Assets

(IRC)  
Used to verify if enough reserve MW available.

Used to verify generation will not over-exceed light load margins.

Used to record and schedule:

- Generator MW Outages
- Voltage Regulator Outages
- Governor Outages
- D-Curve Adjustments
- Reactive Tests

Reactive Test Results Tickets: submit test results and download test letter.

GO Survey: view and respond

Blackstart Calculator used to capture unit data and determine critical load in system restoration plans

Voltage Schedules: view and acknowledge

# eDART Applications

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Used to view non-generator transmission facility outages.

### Current Status Report

15 minute snapshot of current status

### Peak Status Report

Forecast of system condition for the peak of the day

### Supplemental Status Report (SSR) – Retiring September 2019

72 hour forecast of system condition; typically for extreme hot/cold weather conditions

### Gen Checkout

Used to compare and highlight discrepancies between Market Gateway bids and Available Capacity. Brings Markets and Operations together in real-time

Used to manage PSSE mapping information for the purpose of sending and receiving info to/ from NERC SDX

# What is Gen Checkout ?

- eDART Generation Checkout – This program compares:
  - Unit schedule availability/bid data in Markets Gateway,
  - Unit outages submitted via Generator Ticket (eDART)
  - Stated capability to ensure accurate market data and capacity/reserve projections
- Generation Checkout occurs twice daily
  - 02:00 to check out for the same day
  - 13:30 to check out for the next day

# Discrepancy Handling

## Gen Checkout is basically a reporting mechanism

- All resolutions handled via Markets Gateway and/or Gen tickets
- Resolutions for the Today Report must be handled by 0400
  - All call initiates process at approx. 2:00 am
- Resolutions for the Tomorrow Report must be handled by 14:15
  - 13:30 unit commitment report triggers Gen Checkout

For more information on Markets Gateway functionality, please go to  
<http://www.pjm.com/markets-and-operations/etools/markets-gateway.aspx>

For more information on eDART – Generator Ticket functionality, please go to  
<http://www.pjm.com/markets-and-operations/etools/edart.aspx>

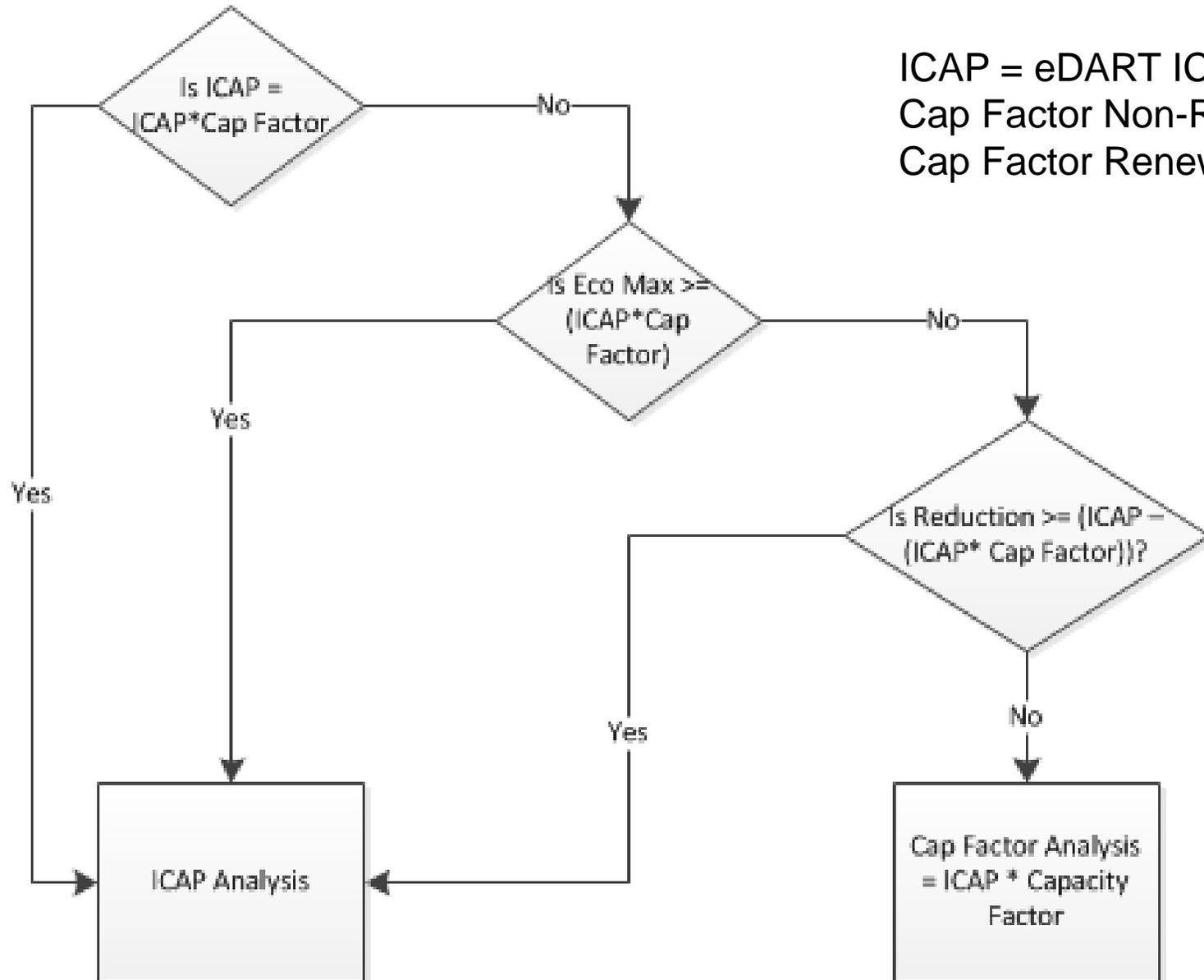
# Gen Checkout

# Comparison Overview

- Gen Checkout on a per unit basis, lists the Markets Gateway values and compares them to outages in eDART
- Any issues are highlighted (yellow  or red  )
- Companies “Acknowledge” when Markets Gateway values are in sync with outage availability (within a specified tolerance)
  - Acknowledgement will be for Today or Tomorrow

Gen Type	Warn. Level %	Ack. Level %
Combustine Turbine	15	20
Diesel	20	50
Hydro	99	200
Nuclear	5	10
Renewable	99	200
Steam/Fossil	15	20
Wind	99	200

# Gen Checkout Logic



ICAP = eDART ICAP  
Cap Factor Non-Renewable = 1  
Cap Factor Renewable < 1

# Gen Checkout Calculations

## ICAP Analysis

Condition	Adjusted Capacity, ADJ. ICAP	Adjusted ICAP Diff (%)
<b>Economic</b>	$Adj.ICAP_{EC} = ICAP + Amb.Adj. - Re\ duct - Incremental$ <p>* <math>Incremental = EmergencyMax - EconomicMax</math></p>	$DIFF = \frac{ADJ.CAP_{EC} - EconomicMax}{ADJ.CAP_{EC}} \times 100$
<b>Emergency</b>	$Adj.ICAP_{EM} = ICAP + Amb.Adj. - Re\ duct$	$DIFF = \frac{ADJ.CAP_{EM} - EmergencyMax}{ADJ.CAP_{EM}} \times 100$

**\*Note:**

- Ambient Air values will be the opposite sign of what is reported in Generator Tickets
- For Cap Factor Analysis,  $ICAP = ICAP * Capacity\ Factor$

# Questions?

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