



Valley Import Overview -- Update

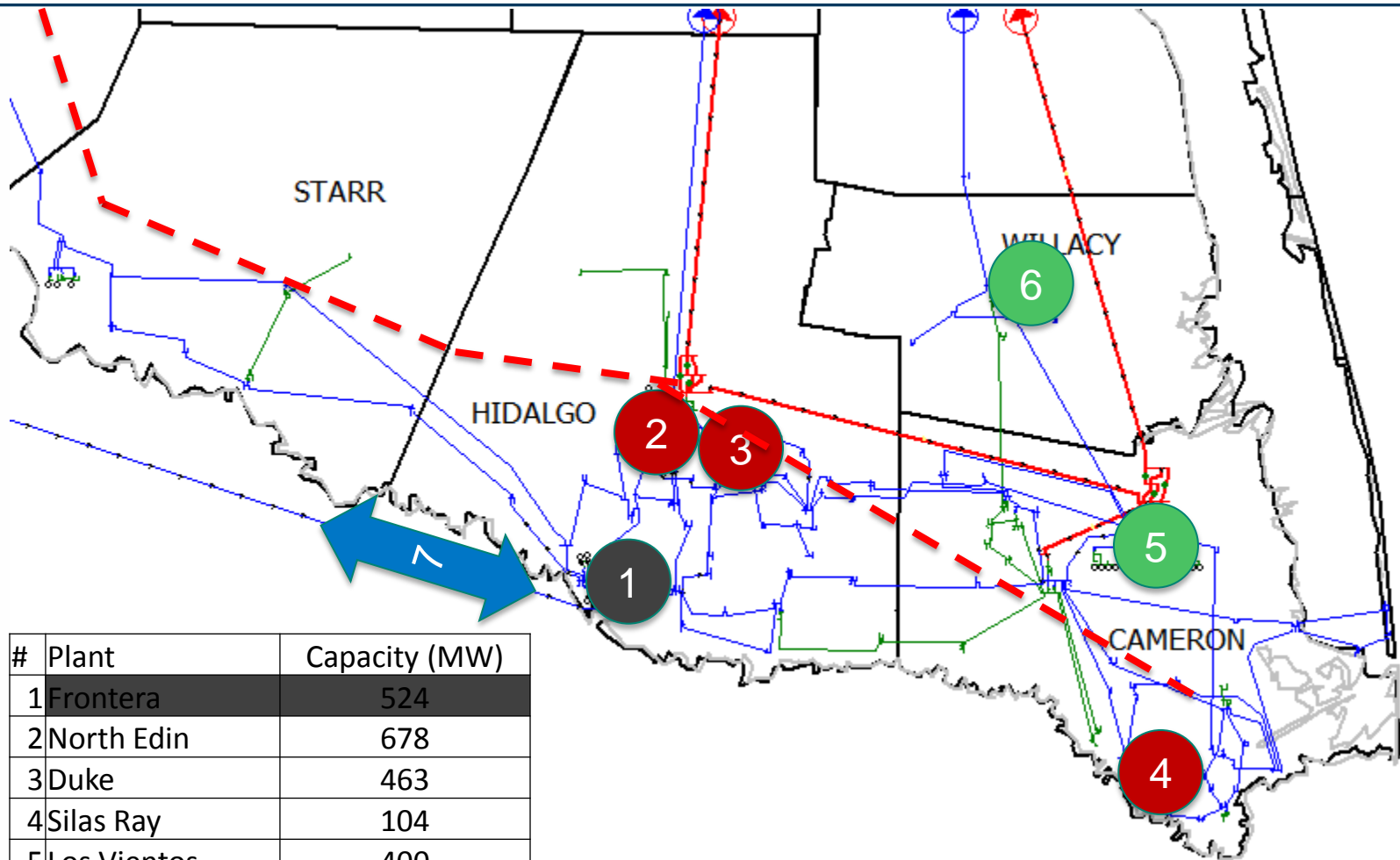
Shun-Hsien (Fred) Huang
Regional Planning Group Meeting
August 19, 2014



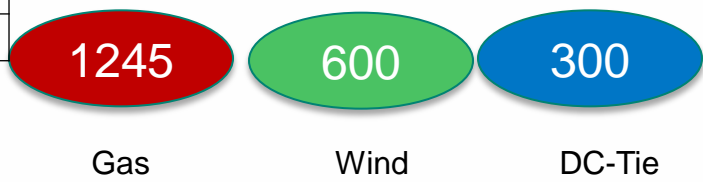
Outlines

- Valley Overview – 2016 Update
 - The entire Frontera Facility will not be available beginning January 1, 2016
- Preliminary PV Analysis
- Discussion and Next Steps

Valley Transmission - 2016



#	Plant	Capacity (MW)
1	Frontera	524
2	North Edin	678
3	Duke	463
4	Silas Ray	104
5	Los Vientos	400
6	Redfish	200
7	Railroad DC Tie	300



Gas

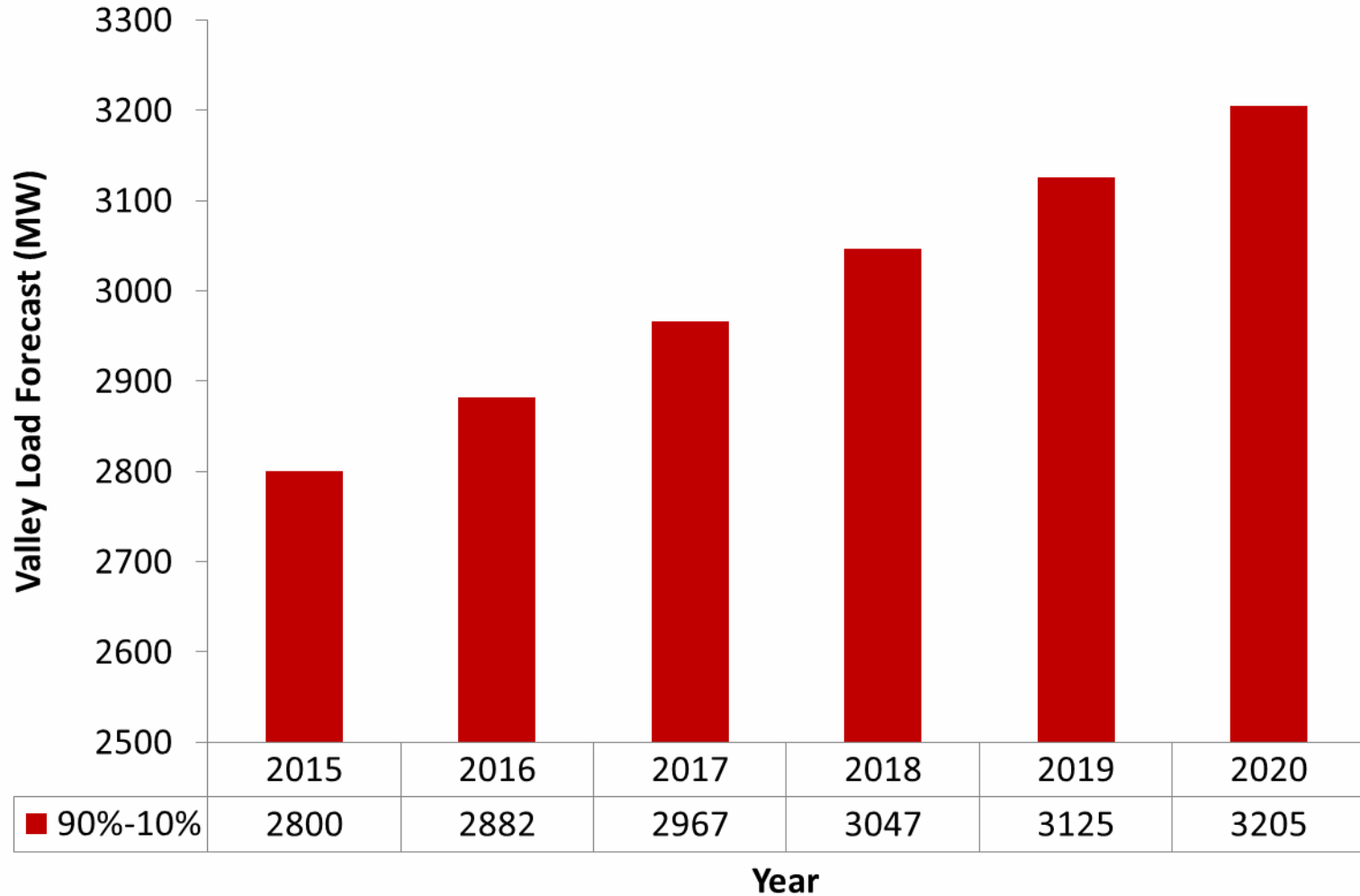
Wind

DC-Tie



Valley Load Forecast (2014 RTP)

90-10 Forecast



Valley Import Study

- Study Case
 - 2016 Summer Peak (SSWG, March 2014)
- Base Case Condition
 - All Valley Gas Generation at Pmax
 - Lobo – North Edinburg 345 kV in service (with series capacitor)
 - North Edinburg – Loma Alta (Cross Valley) 345 kV in service
 - Valley Wind Output = 10% dispatch
 - Railroad DC-Tie no import/export
 - **Turn off the entire Frontera Facility**
- Steady State PV Analysis

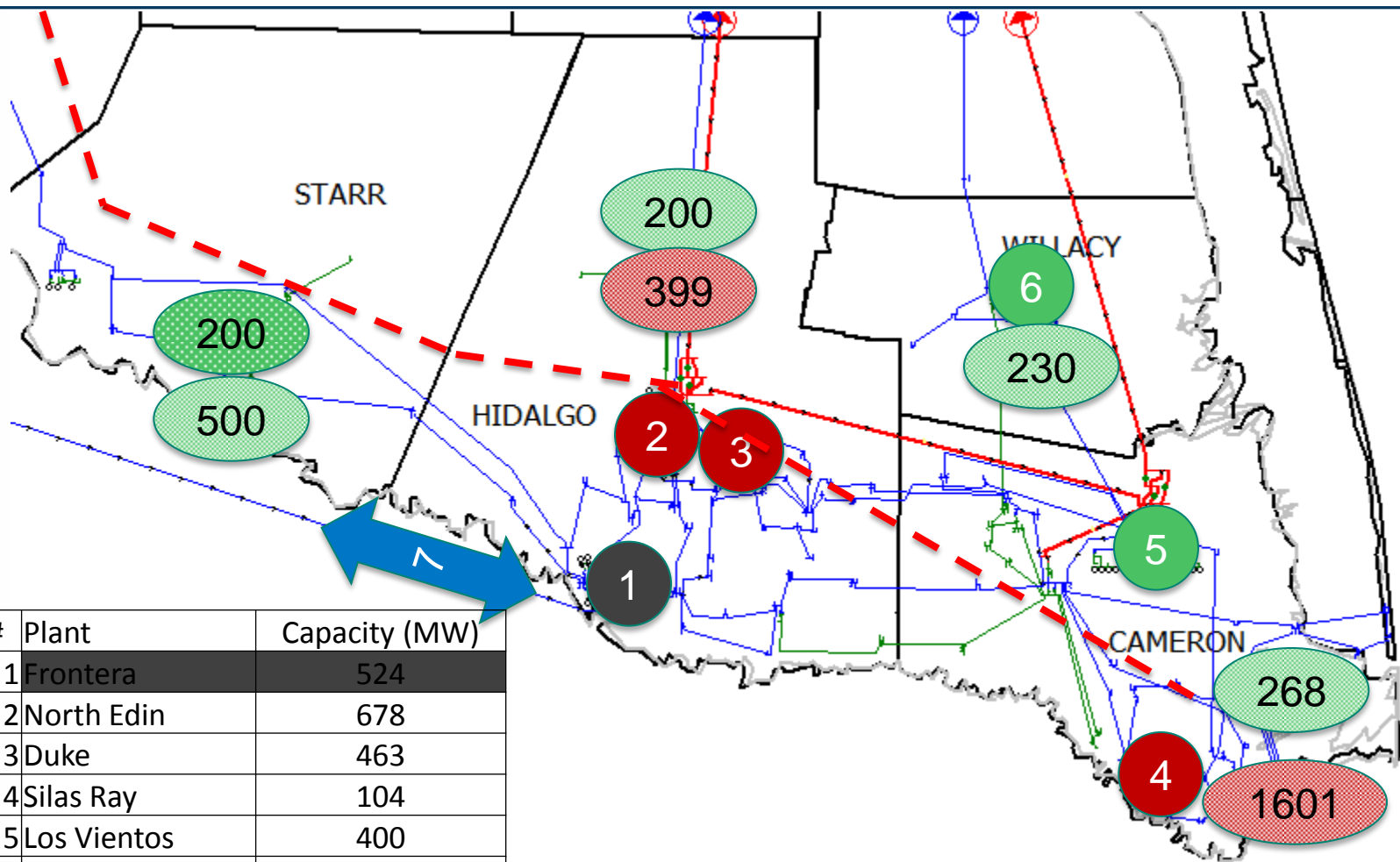
VSAT Results

Outage	Contingency	Valley Load (MW) at Stability Limit
N-1	N-1	2521
G-1	G-1	2452
N-1	G-1	2434

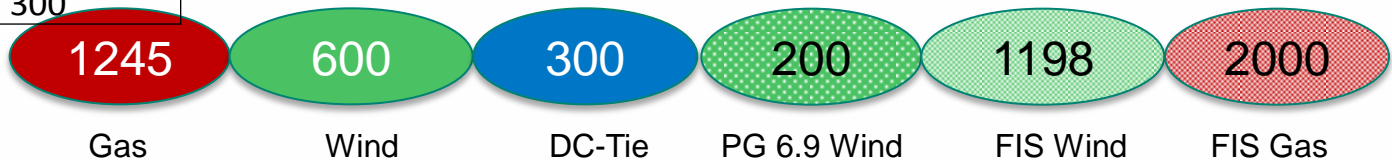
Base Case Notes:

- (1) G-1 includes entire combined cycle train
- (2) N-1 includes 345 kV transmission line
- (3) Dynamic analysis results (ongoing work) may show stability limits lower than in the above table

Valley Potential Gen (by County), COD by 2016



#	Plant	Capacity (MW)
1	Frontera	524
2	North Edin	678
3	Duke	463
4	Silas Ray	104
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Discussion

- All the identified contingencies indicate the limitation to serve the projected Valley load in 2016.
- ERCOT is working on dynamic stability analysis
- ERCOT will work with area TSPs and RPG to evaluate project alternatives to address the reliability need
 - Static and/or dynamic reactive devices
 - Ajo – Caballo 345 kV line (suggested in 2011 ERCOT Independent Review)
 - San Miguel – Lobo – North Edinburg second circuit
 - Additional import path
 - Impact of new Generation Interconnection projects
- Railroad DC tie assumption

Questions/ Comments?

VSAT Results

Outage	Contingency	Valley Load (MW) at Stability Limit	Year Exceeded
N-1	N-1	2867	2016
G-1	G-1	2947	2017
N-1	G-1	3061	2019

Base Case Notes:

- (1) G-1 includes entire combined cycle train
- (2) N-1 includes 345 kV transmission line
- (3) Dynamic analysis results (ongoing work) may show stability limits lower than in the above table
- (4) Frontera Facility is in service in the base case