

Planned
 Development and Testing
 Fully implemented (on-line or study mode)

**Recovery Act Smart Grid Investments
 SYNCHROPHASOR PROJECT STATUS
 30 June 2014**



INSTALLED	ATC Comm.	ATC PMU	CCET	Duke Energy	Entergy	Florida P&L	Idaho Power	ISO-NE	Lafayette	Midwest Energy	Midwest ISO	NY ISO *	PJM	WECC
PMU Devices	N/A	49	19	103	49	45	8	73	31	7	260	41	322	393
PMU Substations	69	45	16	52	49	45	4	40	31	7	166	41	90	134
PMU Signals	110 miles fiber	620	19	1,872			100	383			1928	759	2,615	3,032
PDC Count		45	3	4	9	13	0	9	3	1	15	11	24	57
<i>REAL-TIME APPLICATIONS</i>														
Oscillation Detection														
Phase angle monitoring														
Frequency Event detection														
Voltage stability monitoring														
Event Management, Alarm, Restoration														
General Event Detection														
Islanding detection														
Wide area awareness/visibility														
<i>STUDY MODE APPLICATIONS</i>														
Model validation & improvement														
State estimation model improvement														
Power plant model improvement														
Post event analysis														
Operator training														

* NY ISO also installed 938 automated capacitors