Presentation on Proposed CO_2 Regulation For JEA Community Symposium

Theresa Pugh
Director, Environmental Services
American Public Power Association

Jacksonville Main Library
September 25, 2014

American Public Power Association

Welcome to the new Clean Air Act –What it means for States - Block 3 Hypothetical Example

Florida Block 3

From 2020 - 2030 Build 14,619,981.16 MWh RE to meet EPA target

-Put another way-

Everybody in FL build more RE until we get to RE = 11.55% of 2012 fossil generation in 2030

http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-technical-documents-spreadsheets

		Best System of Emission Reduction	Cost per Ton
	BSER BUILDING BLOCKS		
1	Reducing the carbon intensity at individual affected EGUs through heat rate improvements	6% improvement in average heat rate of coal-fired steam EGUs	US$6-12 per metric ton.[51]
2	Reducing emissions from the most carbon-intensive EGUs by substituting generation from less carbon-intensive affected EGUs	Replacing coal and oil/gas fired steam generation by increasing generation from existing NGCC capacity (including NGCC units under construction) to a 70% utilization rate	US$30/ton
3	Reducing emissions from affected EGUs in the amount that results from substituting generation from expanded low- or zero-carbon generation	Completing all nuclear capacity under construction; avoiding retirement of 6% of existing nuclear capacity; increasing renewable capacity over time with state-level targets consistent with RPS established by states in the same region	Nuclear: US$12-17/ton Renewables: US$10-40/ton
4	Reducing emissions from affected EGUs in the amount that results from the use of demand-side energy efficiency that reduces the amount of generation required	Increasing state demand-side energy efficiency to generate 1.5% annual electricity savings	US$16-24/ton

Florida's Prospective Measures?

- Coal is proposed to generate about 90.72% less MWh by 2020 and natural gas combined cycle (NGCC) is proposed to run 37.13% more MWh
- Nuclear "under construction" and "at risk" makes up a smaller relative portion of the proposed final rate (approximately 0.67% of the final proposed CO_2 lbs/MWh rate)
- Renewable Energy (MWh) are proposed to increase to be equivalent to 11.55% of total 2012 FL Fossil fuel generation in 2030.
- Energy efficiency is proposed to keep FL load growth low at 9.98% cumulative savings of load by 2030 (achieved through a reduction by 1.5% per year starting in 2024).

Letter from FL PSC Commissioner

State of Florida

Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: September 3, 2014

TO: Art Graham, Chairman

FROM: Eduardo E. Balbis, Commissioner

RE: Comments regarding the EPA's Proposed Rule for Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

APPA American Public Power Association

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If you decide to fuel switch to NGCC…

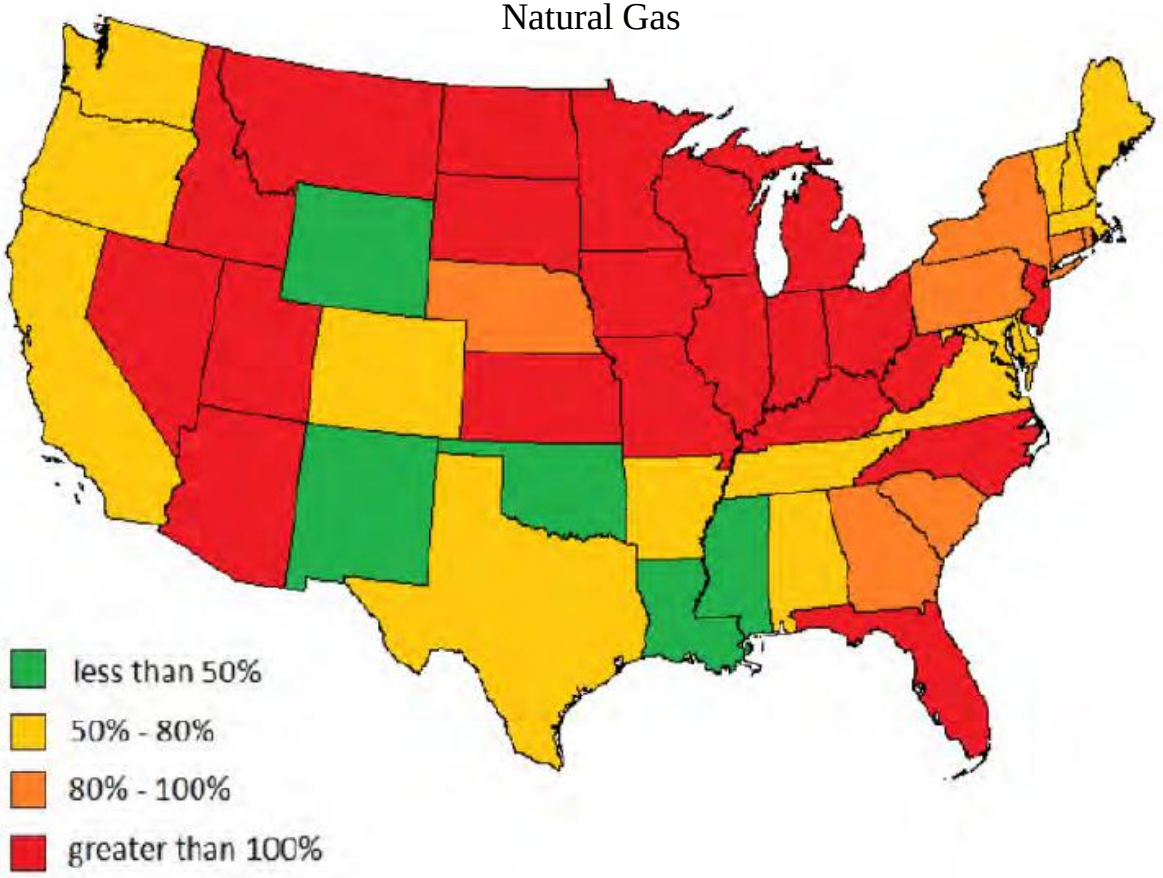
State	2008 Gas Use	Additional Use If Existing In-State Coal Converted to Gas	Coal Use As % of Current Gas Use	Pipeline Load Factor Into State If Convert Coal to Gas
Florida	0.943	0.479	51%	105%

Source: American Public Power Association, *"Implication of Greater Reliance on Natural Gas for Electricity Generation"* Based on EIA Coal-Fired MW by State and Aspen Analysis
http://www.publicpower.org/files/PDFs/ImplicationsOfGreaterRelianceOnNGforElectricityGeneration.pdf

APPA American Public Power Association

New Natural Gas Fired Power Plants Require Infrastructure of >15,000 miles of Pipelines & Storage for NG in Most States

Interstate Pipeline Capacity Utilization if an Individual State Switched its Coal-Fired Generation to Natural Gas



Implications of Greater Reliance on Natural Gas for Electricity Generation

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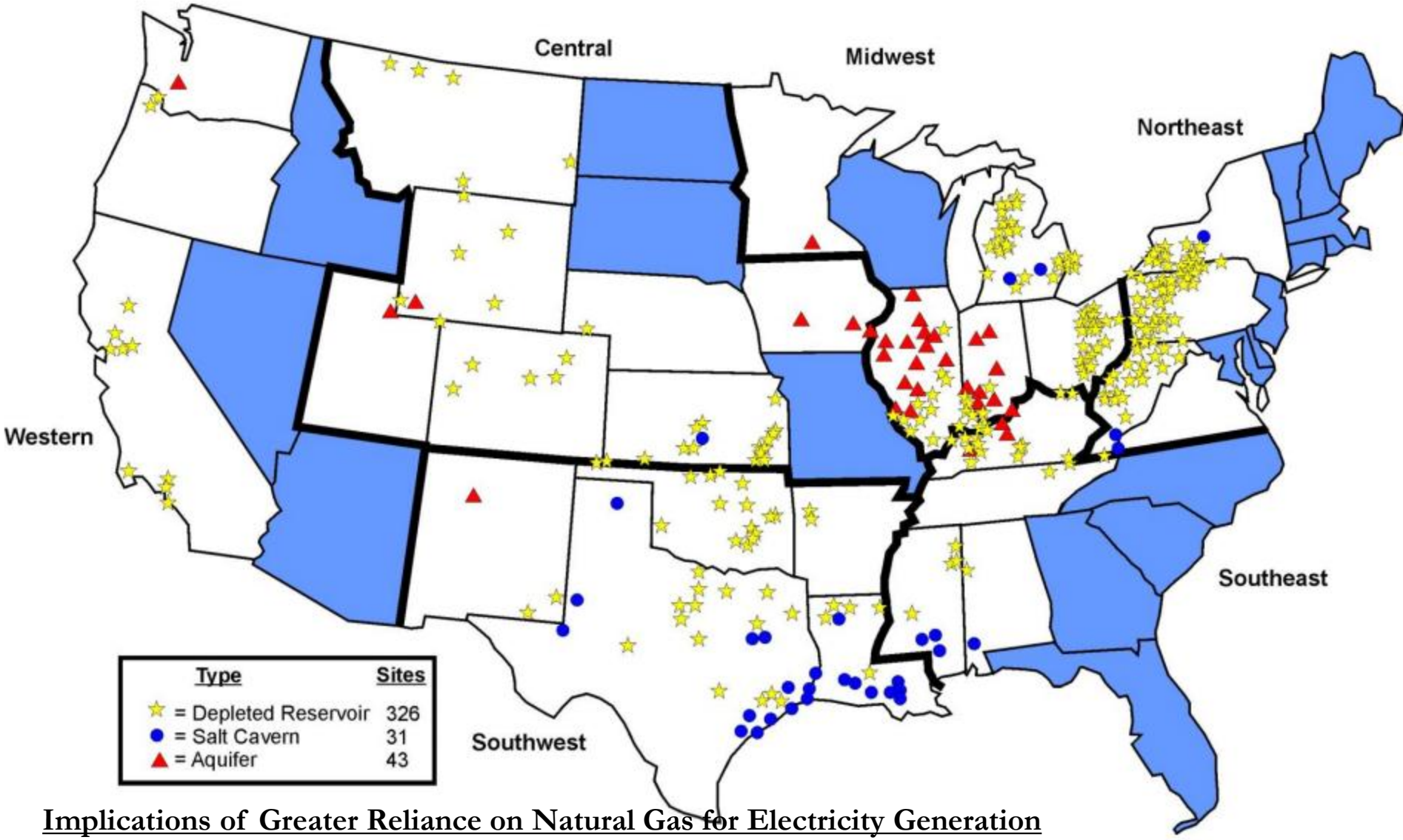
Figure 15: Geographic Distribution of Underground Gas Storage Facilities



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Implementing the EPA's Projected Reductions Based Upon 2012 Baseline of Emissions in Florida

Florida 2012 fossil rate → 1,238 lbs/MWh

Florida 2020 fossil rate proposed target → 794.33 lbs/MWh

http://www2.epa.gov/carbon-pollution-standards/

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Florida's Projected Growth

	2012	2015	2020	2025	2030	2035	2040
Duval	869,729	889,826	930,680	969,678	1,005,860	1,036,039	1,063,669

Source: FL State Office of Economic and Demographic Research

US Census Growth Projection

79.5 percent population increase projected from 2000 Census to Year 2030 but 22.6 percent between 2020 and 2030

Source: U. S. Census Bureau, Population Division, Interim State Population Projections, 2005. Internet Release Date: April 21, 2005 (taken from internet on July 10, 2014)

Contact Information

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