FDS

Coke Plant. LLC

Labyrinth Management Group, Inc

Strategic Environmental, Safety & Health Solutions

INDUSTRIAL CO-GENERATION OF ELECTRICITY AS AN OHIO RENEWABLE ENERGY RESOURCE

FDS COKE PLANT, LLC POSITION AND TALKING POINTS

February 27, 2012

- FDS Coke Plant, LLC supports and is encouraged by current Ohio legislative efforts to classify the co-generation of electricity from waste gas/waste heat as a "renewable energy resource" as a broad-based economic development effort that will sustain and stimulate growth in Ohio manufacturing.

- FDS Coke Plant, LLC calls upon Northwest Ohio elected officials to support and encourage Ohio legislative efforts to classify the co-generation of electricity from waste gas/waste heat from any **new** and existing "air contaminant source" as a renewable energy resource.

- Senate Bill 289's current classification of co-generation as a renewable energy resource that includes only air contaminate sources that have been in operation since on or before January 1, 1985, must be broadened to include "any new and existing air contaminant source". Senate Bill 289's definition is arbitrary, discourages the use of new technologies at existing manufacturing plants, would not stimulate construction of new manufacturing plants in Ohio, and fails to leverage co-generation with future shale gas development and low natural gas prices to maximize Ohio's economic development potential.

- Classification of co-generation as a renewable energy resource with eligibility to sell renewable energy credits (RECs) will stimulate the generation of "clean" electricity with net zero or potential negative air pollutant emissions. Clean co-generation electricity will improve ambient air quality in Ohio.

- Unlike wind and solar renewable technologies, industrial co-generation of electricity can qualify as a "base load" resource reducing market pressure on higher prices for peak load electricity. First Energy's recent retirement of 2,300 MW of base load electricity from coal-fired power plants is expected by most analysts to increase future peak power prices to Ohio rate payers.

- Including co-generation of electricity as a renewable energy resource will significantly reduce the costs to utility companies operating in Ohio to meet SB 221 renewable benchmarks resulting in lower costs to electricity rate payers. For example, LMG estimates the annual cost saving could be **$147 Million in 2015** and **$364 Million in 2020**. Total cumulative savings to electricity rate payers through 2025 could range from **$2 to 4 Billion** depending on projected existing and future REC prices.

- Electricity RECs generated by co-generation projects will not overwhelm the existing market but will lead to significantly lower REC prices. In 2015, the FDS Co-Generation Facility RECs would equal only 18% the renewable energy benchmark requirement and these RECs drop to less than 5% of the renewable energy benchmark by 2025.

- A September 2011 PUCO study indicates that without significant biomass co-firing Ohio renewable energy benchmarks will not be met beginning as early as 2016. Further, the in-state solar set-aside benchmark may not be met beginning in 2017 through 2020. These findings and expected savings demonstrate the need for co-generation electricity to be classified as a renewable energy resource.

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Estimated Rate Payer Cost of Renewable Energy Benchmarks Required by SB221 and Potential Savings from Industrial Co-Generation as Renewable Energy Resource

Year	SB 221 Renewable Requirements (including Solar)	Total SB 221 Required FE Renewable - MWhrs	Total SB 221 Required AEP Renewable - MWhrs	Total SB 221 Required Duke Renewable - MWhrs	Total SB 221 Required DPL Renewable - MWhrs	Total SB 221 Required Renewable Energy (MWhrs)	Total Renewable Energy Rate Payer REC Cost at ACP ($45/MWhr)***	Estimated Total REC Cost without Industrial Co-Gen ($30/MWhr)	Estimated Total REC Cost with Industrial Co-Gen Reducing Prices to $10/MWhr	Total Estimated Rate Payer REC Cost Saving with Industrial Co-Generation	FDS Co-Gen Output as % of Total SB 221 Renewable Energy**
2009	0.25%	138,560	114,120	56,773	35,994	345,447	**$15,545,100**	**NC**	**NA**	**NA**	NA
2010	0.50%	270,563	224,874	113,452	72,406	681,294	**$30,658,247**	**NC**	**NA**	**NA**	NA
2011	1.00%	531,662	444,002	227,263	146,623	1,349,550	**$60,729,750**	**NC**	**NA**	**NA**	NA
2012	1.50%	804,199	661,020	341,832	223,577	2,030,628	**$91,378,272**	**NC**	**NC**	**NC**	NA
2013	2.00%	1,110,741	882,417	457,759	297,859	2,748,776	**$123,694,903**	**NC**	**NC**	**NC**	NA
2014	2.50%	1,427,088	1,105,951	574,657	374,824	3,482,520	**$156,713,384**	**NC**	**NC**	**NC**	NA
2015	3.50%	2,022,589	1,551,479	806,848	528,723	4,909,639	**$220,933,761**	**$147,289,174**	**$49,096,391**	**$98,192,783**	**18.33%**
2016	4.50%	2,616,108	1,997,906	1,038,419	686,257	6,338,690	**$285,241,043**	**$190,160,695**	**$63,386,898**	**$126,773,797**	14.20%
2017	5.50%	3,217,455	2,444,877	1,269,046	844,885	7,776,262	**$349,931,794**	**$233,287,863**	**$77,762,621**	**$155,525,242**	11.57%
2018	6.50%	3,827,386	2,892,559	1,498,905	1,006,486	9,225,336	**$415,140,113**	**$276,760,076**	**$92,253,359**	**$184,506,717**	9.76%
2019	7.50%	4,445,055	3,344,140	1,727,530	1,170,778	10,687,504	**$480,937,665**	**$320,625,110**	**$106,875,037**	**$213,750,074**	8.42%
2020	8.50%	5,068,961	3,793,847	1,955,764	1,316,262	12,134,833	**$546,067,503**	**$364,045,002**	**$121,348,334**	**$242,696,668**	**7.42%**
2021	9.50%	5,700,710	4,243,576	2,195,861	1,475,040	13,615,187	**$612,683,396**	**$408,455,598**	**$136,151,866**	**$272,303,732**	6.61%
2022	10.50%	6,339,363	4,693,250	2,406,718	1,631,789	15,071,120	**$678,200,396**	**$452,133,597**	**$150,711,199**	**$301,422,398**	5.97%
2023	11.50%	6,986,849	5,142,569	2,627,781	1,784,533	16,541,731	**$744,377,914**	**$496,251,943**	**$165,417,314**	**$330,834,629**	5.44%
2024	12.50%	7,641,621	5,591,875	2,845,980	1,941,053	18,020,528	**$810,923,781**	**$540,615,854**	**$180,205,285**	**$360,410,569**	4.99%
2025	12.50%	7,692,385	5,593,628	2,834,930	1,941,123	18,062,066	**$812,792,965**	**$541,861,976**	**$180,620,659**	**$361,241,318**	4.98%
						Total	**$5,957,230,331**	**$3,971,486,888**	**$1,323,828,963**	**$2,647,657,925**	

Total REC Rate Payer Savings at ACP **$4,633,401,369**

Note: Total Ohio electricity generation for each utility back caculated based on Policy Matters of Ohio 2010 report with data on SB 221 energy efficiency requirements
Note: Estimated Renewable Energy Rate Payer Cost does not incorporate higher solar set-aside REC prices
** Based on 900,000 MWhrs annual output to grid
*** $45 MWhr is base non-renewable Alternative Compliance Penalty (ACP) for not meeting standard