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Mr. David Riddle, Sr. Environmental Engineer  
MDEQ – AQD  
Permit Section, Thermal Process Unit  
Lansing, Michigan 48933

April 9, 2008  
NTH Project 16-1601026

**RE: Amendment to Application No. 341-07  
Consumers Energy Company – Bay County  
Top-Down BACT Analysis for IGCC**

**RECEIVED**

**APR 10 2008**

**AIR QUALITY DIV.**

Dear Mr. Riddle:

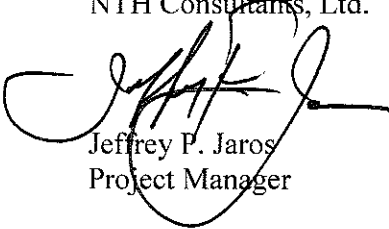
Pursuant to your request on February 14, 2008, Consumers Energy Company (Consumers) is submitting the attached supplement to the Technology Assessment in Appendix I of Permit to Install Application No. 341-07 for the proposed advanced supercritical pulverized coal (ASCPC) boiler project. The supplement includes a top-down Best Available Control Technology (BACT) review on Integrated Gasification Combined Cycle (IGCC) technology.

Your February 14 letter asked that the BACT analysis follow the guidelines established in the Draft 1990 New Source Review Workshop Manual (i.e. the top-down approach). In addition, you provided a checklist of items that needed to be addressed to ensure a complete BACT evaluation. Consumers performed the analysis based on MDEQ's requested procedures. The completed checklist is attached for your reference.

If you have any questions concerning this amendment, please feel free to contact me at (517) 484-6900.

Sincerely

NTH Consultants, Ltd.



Jeffrey P. Jaros  
Project Manager



Lori Myott  
Senior Project Engineer

Attachment

JPJ/mjb

cc: Ms. Linda Hilbert, Consumers Energy Company

### IGCC BACT Checklist\*

General Requirements			
	Y	N	
1.	X		Is the availability and capacity factor consistent among all cases? pg 25-26
2.	X		Is the configuration necessary to attain the needed availability clearly defined and justified? pg 25-26
3.	X		Are costs adjusted consistently among all cases? pg 32-36
4.	X		Is the method of cost adjustment clearly defined? pg 32-36
5.	X		Are costs based upon the most recent and accurate information? pg 32-36
6.	X		Are the sources of cost information clearly documented? pg 32-43
7.	X		Is the basis for fuel selection documented? pg 10-11
8.	X		Is the net generating capacity the same in all cases? pg 25-26
9.	X		Is the mechanism for adjusting the net generating capacity documented? pg 25-26
10.	X		Is the basis of the heat rate of each combustion source documented? pg 29
11.	X		Are the allowable emission rates reflective of the most recently issued permits? pg 28
12.	X		Is the cost of capital the same for each combustion configuration? pg 26 & Attachment A
13.	X		Are differences in the cost of capital justified? pg 32-36
14.	X		Is the method of cost effectiveness defined? pg 30-31
15.	X		Is mercury control addressed in all cases? pg 25-26
16.	X		Is the pollution control devices clearly defined for all cases? pg 25-26
17.	X		Are allowable emissions clearly defined in all cases? pg 28
18.	X		Is a consistent amortization period used for all cases? pg 32-36
19.	X		Is the purchase cost of NOx and SO <sub>2</sub> allowances included? pg 39
20.	X		Is the cost basis for NOx and SO <sub>2</sub> allocations included? pg 39
21.	X		Are all penalties assessed clearly documented and technically justified? pg 37-42
<b>Definition of the base cases</b>			
22.		X	Is there more than one IGCC configuration chosen?
23.		X	Is there more than one non-IGCC configuration chosen?
24.	X		Is the basis for each case explained? pg 25-26, Figure 1
<b>Other Environmental Impacts</b>			
25.	X		Is the treatment of all wastes included? pg 37-42
26.	X		Are waste treatment costs included and documented? pg 37-42
27.	X		Is the cost differential in cooling water addressed? pg 38
<b>Economic Consideration</b>			
28.	X		Is cost effectiveness (\$/ton) estimated for all criteria pollutants? pg 30, 43
29.	X		Are annualized capital costs included? pg 32, 36
30.	X		Is the basis for calculating annualized capital costs explained? pg 26
31.	X		Are the fixed operating and maintenance (O & M) costs included (non fuel costs)? pg 40-42
32.	X		Is the basis for calculating fixed O & M explained? pg 40-42
33.	X		Is the basis for cost of fuel explained? pg 37-38
34.	X		Are fixed O & M costs calculated and fully explained? pg 40-42
35.	X		Is the basis for a comparative cost effectiveness documented?

\* Additional information may be requested on a case-by case basis