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TO: Staff Working Group (SWG) of the Regional Greenhouse Gas Initiative
FROM: Brian Aldrich, Cornell Manure Management Program
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Comments on the RGGI Draft Model Rule of March 23, 2006

I wish to comment on these two related issues in the draft model rule, with respect to anaerobic digestion of dairy manure in particular:
1. Project eligibility date of December 20, 2005
2. Allowing capture of incentives from more than one program

Project eligibility date of December 20, 2005

Note that the "second generation" of digesters in New York State consisted of just ten digesters at the end of 2005 (see Fig.1), almost all of which were built in the past five years and have

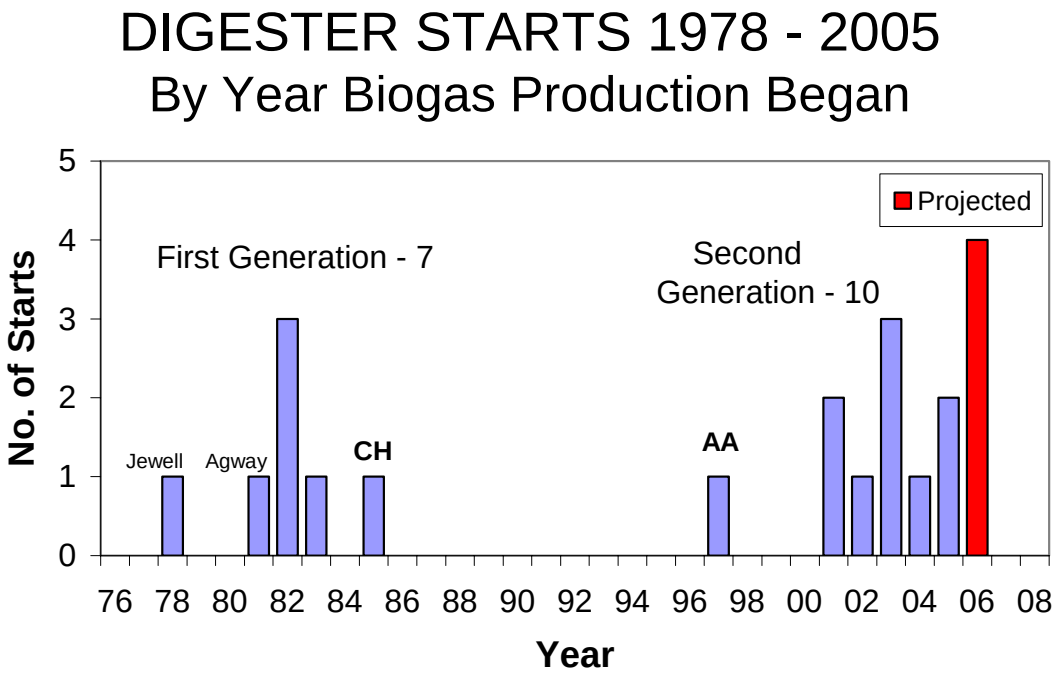

Figure 1.

thus not been operating that long. At the time of this writing, four of those digesters are down for repairs and refurbishing. The Cornell Manure Management Program has done case studies on a number of these digesters:
http://www.manuremanagement.cornell.edu/HTMLs/CaseStudies.htm
and made preliminary estimates of their financial viability:
http://www.manuremanagement.cornell.edu/Docs/ASAE%20paper%20044032%20Final.htm

http://www.manuremanagement.cornell.edu/Docs/Is%20the%20energy%20in%20manure%20worth%20harvesting-%20Gooch%20et%20al%20June05%20NEDB.htm

These estimates are based on assumptions and projections of equipment lifetime and operating/maintenance expenses, and may change greatly with time as the projects mature. The projected returns on investment vary greatly, ranging from negative returns (in which case the cost is considered to be the cost of odor control, a cost of doing business) to positive returns, primarily where one farm was able to negotiate tipping fees for accepting food waste. While we are beginning to get a handle on the true long-term operating costs of digesters, there is still much uncertainty. Building and investing in a digester is still a financially risky undertaking for a farm, and almost all digesters to date have been built with substantial financial assistance (grants).

We hope the current number of digesters in New York is small compared to the number that will be operating 10-20 years from now, and are concerned that these early adopters not be eligible for renewable energy credits and methane destruction credits simply because they were built prior to 12/20/05. Methane destruction in particular is vital for putting the brakes on global warming, so farms with projects that destroy methane should receive ongoing support to ensure that methane destruction continues. Furthermore, we know other farms continue to watch these early adopters to see how they fare before deciding to build digesters themselves. Thus the continued successful operation of the digesters built prior to 12/20/05 will have an impact on the number of farms deciding to build digesters in the future.

Also note that some of these second-generation projects had innovative designs from which much was learned, but which will also require some major retooling and retrofitting. For all projects that generate electricity using biogas, engine-generator lifetime in particular is a big question mark, due to the corrosive nature of biogas. Periodic engine-generator rebuilds are expected, as well as eventual engine-generator replacement.

Allowing capture of incentives from more than one program

We recognize the need to carefully allocate the limited funds of the various programs (system benefit charge, renewable portfolio standard, RGGI) so as to optimize the mix of incentives to achieve maximum benefit and the desired outcomes. Not knowing the sizes and duration of those financial pools, it is difficult for us to assess the trade-offs of excluding vs. allowing existing projects to participate, and of excluding vs. allowing capture of incentives from more than one program. We do think anaerobic digesters are a special case, in that the technology is still evolving, the long-term (10-20 yr.) operating costs are unknown, and construction costs are increasing. We recognize that the ideal for society is to give all digester projects enough support to succeed, but not more support than is necessary, the latter being a waste of scarce funding resources. To avoid the latter, we recognize it would not be wise to grant digesters automatic eligibility for multiple incentives. Eligibility should not be indiscriminate, but rather decided on a case-by-case basis. Since farm digester economics vary greatly depending on the

site, use of farm labor in construction, amount of kW generated (affects eligibility for net metering in New York), and access to food waste contracts (which can generate tipping fees), a strong case can be made for the use of the "Standardized Financial Additionality Test" outlined in the draft model rule. The "Size Threshold" and "Market Penetration Threshold" additionality tests also deserve merit, and we encourage the SWG to further investigate these approaches.

Respectfully submitted,

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