STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
CURT FRANSEN, DIRECTOR

December 28, 2012

**VIA EMAIL**

C. Lloyd Mahaffey, Chairman & CEO
Dynamis Energy, LLC
776 E. Riverside Dr., Suite 150
Eagle, ID 83616

RE: Mercury Control and Monitoring Equipment
Waste-to-Energy Project at Hidden Hollow Landfill
Facility ID No. 001-00252, Dynamis Energy, LLC, Boise

Dear Mr. Mahaffey:

On December 14, 2012, the Department of Environmental Quality (DEQ) received a mercury control technology analysis and revised modeling report from Dynamis Energy, LLC for a waste-to-energy project to be located at Hidden Hollow Landfill in Boise. DEQ has reviewed the application materials and requests additional information regarding the proposed mercury control and monitoring equipment, in accordance with IDAPA 58.01.01.202.03, *Rules for Control of Air Pollution in Idaho*.

1. Mercury emission limit. Controlled emissions were estimated at 12.8 pounds of mercury per year. Please confirm or verify this estimate has been proposed as an annual emission limit in accordance with IDAPA 58.01.01.213.01.c.
2. Mercury control effectiveness and operating parameters. The scrubber control guarantee provided does not address mercury removal rates.[1] Discuss whether the proposed scrubber has been designed specifically for mercury removal, and provide a vendor guarantee of mercury removal performance if possible. Provide information regarding any aspects of the scrubber design that may specifically target mercury removal, and identify key operating parameters.[2,3]

[1] "Heat Recovery and Pollutant Abatement System DCI-HTR Scrubbing Heat Recovery System, Revision D," Direct Contact, August 14, 2012.

[2] For example, the use of an additive-enhanced scrubbing stage, employing water-soluble oxidants (NaClO, $NaClO_2$, $Na_2S_4$, etc.), has been recommended to achieve mercury removal rates above 90% efficiency. The use of precipitants ($Na_2S$, TMT-15, dithiocarbamates, etc.) may prevent revolatilization and re-emission of captured mercury. Key operating parameters may include scrubbing liquor pH, flow rate, maximum scrubber inlet temperature, etc.

[3] "Mercury Study Report to Congress, Volume VIII: An Evaluation of Mercury Control Technologies and Costs" (EPA-452/R-97-010), EPA, December 1997.

3. Mercury monitoring system. Identify key design and operating parameters for the proposed mercury sorbent trap monitoring system (STMS), including sorbent trap exchange frequency.[4]

   NSPS Subpart Eb provides for the use of a continuous mercury monitoring system as a compliance option under 40 CFR 60.58b(d)(4). Discuss whether the STMS will be specified for determining compliance with both the mercury emission limit in 40 CFR 60.52b(a)(5)(ii) and the annual emission limit. If available, provide a copy of the site-specific monitoring plan as specified in 40 CFR 60.58b(n) through (q), or similar such plan, to address elements of installation, performance and equipment specifications,[5] performance evaluation procedures, malfunction or out-of-control period provisions, and data quality assurance procedures.

4. Diverter stack emissions. Uncontrolled emission events (e.g., due to upset or malfunction) were not considered within the inventory of emission estimates or within the modeled operating scenarios. Discuss any control and monitoring options considered for the diverter stack emissions pathway. As proposed, emissions from the diverter stack would qualify as excess emissions subject the requirements of IDAPA 58.01.01.130-136.

If you have any questions about this letter or about the air quality permitting process, please contact me at (208) 373-0502, or Morrie.Lewis@deq.idaho.gov.

Sincerely,

Morrie Lewis
Permit Writer
Air Quality Division

Permit No. P-2012.0022 PROJ 61033

[4] A 24-hour averaging period is required when STMS is used as a compliance option under 40 CFR 60.58b(d)(4), NSPS Subpart Eb.

[5] DEQ recommends Performance Specifications 6 and 12B (or equivalent) for monitoring of continuous emission rate and total vapor phase mercury emissions.