STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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

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

May 24, 2012

VIA EMAIL

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

RE: Facility ID No. 001-00252, Dynamis Energy, LLC, Boise
Permit to Construct Application Incompleteness, Installation of a New Waste-to-Energy Facility to be Located at the Hidden Hollow Landfill

Dear Mr. Mahaffey

On April 25, 2012, the Department of Environmental Quality received a permit to construct application from Dynamis Energy, LLC for the installation of a new waste-to-energy facility to be located at the Hidden Hollow Landfill located at Boise. DEQ has reviewed the application materials and determined that the application is incomplete. DEQ needs the following information to determine the application complete:

- The basis and methodology used to establish emissions from the Thermal Conversion Unit.

In addition, the modeling group needs the following information to determine the application complete:

- The nitrogen dioxide (NO_2) Significant Impact Level (SIL) the modeling group received on May 8th contained ambient impacts based on the refined Tier 3 NO_2 modeling methods. The maximum daily 1-hr average NO_2 impacts were predicted to exceed the 7.5 $\mu g/m^3$, 1-hr average SIL at the outermost eastern and northern portions of the receptor grid. The receptor grid used does not capture the extent of the area where the project is expected to cause a significant impact. This comment also applies to the SO_2, 1-hr average, SIL analysis. Comment 5 of the modeling protocol requested that this project's modeling use a receptor grid that covers all areas where the proposed project causes a significant ambient impact.
- The NO_2 SIL modeling used a value of 0.15 for the in-stack NO_2 to NO_X ratio for all sources at the facility. However, the facility-wide analysis used an in-stack ratio of 0.5 for the Dynamis Energy emergency IC engine. Please confirm the in-stack ratios of NO_2 to NO_X for all sources in the analysis.

- The exhaust parameters for the emergency IC engine appear to have a high exhaust temperature and flow rate for a 40 feet high release height as proposed (assuming the emergency IC engine itself is located at base elevation of the site). Stack temperatures provided by the IC engine manufacturer are representative of the "stack height" as-delivered prior to any stack height increases. Additional validation is needed for the exhaust parameters for this source or remodel with more conservative assumptions, if remodeling is performed.

- DEQ requests that the exhaust parameters—specifically the stack exit temperatures and volumetric flow rates--for the thermal conversion unit/boiler/scrubber stack be provided in the application materials for each set of operating conditions for the source. A simple scaling of operating capacity to the exhaust flow rate does not appear to apply.

  A detailed description of the effects of varying the short-term processing rate of used tires, as municipal solid waste feedstock, versus the typical refuse feedstock of municipal solid waste, from the baseline of no tires processed up to the maximum requested allowable short term rate of used tires, is requested. If Dynamis has determined that the type of materials gasified in the thermal conversion unit chambers has no effect on exhaust parameters and potential emission rates, please provide an explanation. Any effects caused by fuel variability must be represented in the significant and cumulative impact analyses. Averaging the daily throughput of a material that causes high emissions is not representative of potential to emit for the short term one hour average National Ambient Air Quality Standards (NAAQS), unless the constraint is noted. The issued permit will reflect the modeled emissions rates used in the impact analyses.

  In the event the worst-case emission scenario and exhaust parameter scenario has been modeled, a detailed description of how the worst-case conditions were determined is still needed. Supporting calculations and assumptions need to be included.

- Please submit the AERMAP files for the project to allow DEQ to verify the extent of terrain used to generate the hill height scales for the modeling domain.

- Hour of day operational factors were applied to the NO_2 annual, SO_2 annual, and $PM_{2.5}$ annual average modeled emission rates. The hour-of-day operating factors on the thermal conversion unit stack, in combination with the reduced emission rates for the annual ambient impacts scenario, appear to represent emissions below the project's requested potential to emit. Refer to the pollutant IDs "NO2ANN", "SO2ANN", and "PM2.5ANN." Multiplying the hourly emission rates by the operating schedule provides annual emissions below the levels listed in Table 1 of the application's modeling report. These conclusions were based on the May 1, 2012 submittal for the annual modeling scenarios.

- Areas of steep terrain should be covered with more densely-spaced discrete receptors where significant ambient impacts are predicted to occur. Note: If DEQ performs verification modeling with a tighter receptor grid, the results must demonstrate compliance with the NAAQS.

- Are startup and shut down emissions higher than have been proposed for normal steady-state operation during peak and off-peak operations? If so, startup and shut down emissions during peak and off-peak operations need to be accounted for in the modeling analysis as well as in the Potential to Emit calculations.

Submission of the requested information is due within 30 days of receipt of this incompleteness letter. If you need more time to respond to the letter, contact me prior to the 30 day deadline. If DEQ does not receive the needed information or a request for extension prior to the 30 day deadline the project will be terminated and a new permit application fee will be required when the application is resubmitted.

Since DEQ has declared the application incomplete, review of this project has ceased. Processing of this application will resume upon submission of sufficient information and the project timeline for permit issuance will restart.

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

Sincerely,

Darrin Pampaian

Darrin Pampaian
Permit Writer
Air Quality Division

Permit No. P-2012.0022 PROJ 61033