

ENVIRONMENTAL QUALITY ADVISORY BOARD

August 4, 2011

7:00 PM

Regular Meeting

Municipal Building, Training Room

A. Call to Order

1. Introduction of EQAB members and recognition of visitors
2. Approval of the agenda

B. Approval of minutes from the May 5th meeting

C. Communications, announcements

1. DOE Public Involvement News (available at the meeting)
2. Agreement for access to 114 Union Valley Road to Eradicate Loosestrife
3. Oak Ridge Reservation Local Oversight Committee, INC July 27 Agenda (available at the meeting)
4. Draft Environmental Assessment on Proposed Changes to the Biosolids Land Application Program on the Oak Ridge Reservation (DOE-EA-1779, June 2011).

D. Presentation(s): None

E. Reports (Staff, DOE, EQAB)

1. High School Representatives (Austin Morgan, David Hughes)
2. DOE-related updates (David Page)
3. City Staff (Athanasia Senecal Lewis)
4. Planning Commission (Chuck Agle)

F. Reports (external organizations)

1. Local Oversight Committee/Advisory Panel
2. Keep Anderson County Beautiful

G. Unfinished business

1. Tree cutting in greenbelts
2. EQAB By-laws
3. Climate Action Plan (CAP)

4. Project(s): Establish a schedule to bring recommendations from the Climate Action Plan forward in 2011
5. Discussion of energy audit promotions and progress

H. New business

1. Green lawns & yard maintenance
2. Action items

I. Adjournment

cc: City Manager

City Clerk

Amy Fitzgerald

Kathryn Baldwin

Athanasia Senecal Lewis

Steve Byrd, City Engineer

Tammy Dunn

Diana Stanley

Oak Ridger

News-Sentinel

Oak Ridge Observer

CITY OF OAK RIDGE



COMMUNITY DEVELOPMENT

POST OFFICE BOX 1 • OAK RIDGE, TENNESSEE 37831-0001

July 19, 2011

Samuel J. Furrow
Furrow Family Partnership LP
P.O. Box 32676
Knoxville, Tennessee 32676-2676

RE: Agreement for Access to 114 Union Valley Road to Eradicate Purple Loosestrife

Dear Mr. Furrow:

I spoke with Sharon Mills in your office today by telephone about the need to eradicate a noxious weed (pest plant) known as Purple Loosestrife. Purple Loosestrife is designated as a pest plant by the Tennessee Department of Agriculture and is in need of removal from your property, as well as from neighboring city-owned property. This situation needs immediate attention to prevent the flowering seeds from being carried to additional properties.

As the area in question is also considered a wetland area, only approved materials may be sprayed upon the growth to eradicate this weed. The City is working with individuals from the community and the Tennessee Valley Authority to secure the proper herbicides and a labor source knowledgeable in its application to remove this weed from city property as well as from 114 Union Valley Road.

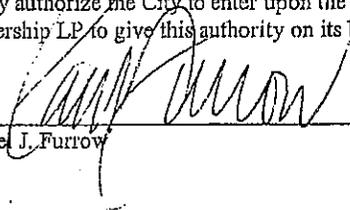
It is my understanding that you are willing to allow this removal as quickly as possible. Please sign this letter and return it to my attention. Thank you for your consideration of this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kathryn Baldwin".

Kathryn Baldwin,
Community Development Director

I hereby acknowledge the request by the City of Oak Ridge to have City or its employees, agents, officials, and volunteers (hereinafter the "City") enter upon the property located at 114 Union Valley Road, Oak Ridge, for the purpose of spraying the proper herbicide to eradicate the Purple Loosestrife plants growing upon said property. I hereby authorize the City to enter upon the property for said purpose. I am duly authorized by the Furrow Family Partnership LP to give this authority on its behalf.



Samuel J. Furrow

7/19/2011
Date



July 26, 2011

Mr. Gary S. Hartman
ORO NEPA Compliance Officer
U.S. Department of Energy
Oak Ridge Office
P.O. Box 2001
Oak Ridge, TN 37831

Dear Mr. Hartman:

Draft Environmental Assessment on Proposed Changes to the Sanitary Biosolids Land Application Program on the Oak Ridge Reservation (DOE-EA-1779, June 2011)

I am writing in response to your letter dated June 24, 2011 requesting comments on the subject document. As you know, the City of Oak Ridge has partnered with DOE for more than two decades to promote beneficial use of biosolids on the Oak Ridge Reservation.

The City supports the proposed action set forth in the Draft Environmental Assessment (EA) to provide additional acreage for land application and to extend the lifetime of the program. Rigorous monitoring and control of the application process will continue to be provided by the City, the designated DOE contractor, and through current and updated land application approvals granted by the Tennessee Department of Environment and Conservation Division (TDEC) of Water Pollution Control.

In support of the proposed action, the following changes to the Draft EA are recommended:

1. The Draft Environmental Assessment (EA) identifies 27 radionuclides that it proposes should be monitored monthly. The EA should stipulate that the cost of this monitoring program should be incurred by DOE or its environmental contractor since the source of the man-made radionuclides will most likely be DOE or reservation contractors. Nevertheless, the City of Oak Ridge will continue to support this radiological monitoring effort through the continuation of its 17-year-old gamma spectroscopy screening program which identifies any significant presence of I-131, Cs-137, Co-60, and/or total gamma.
2. Several places in the Draft EA, the land application area is presented as either "gross acreage" or as "net application area in acres", the latter being a much smaller number and quit restrictive. However, in light of a recent joint site visit by staff of the Tennessee

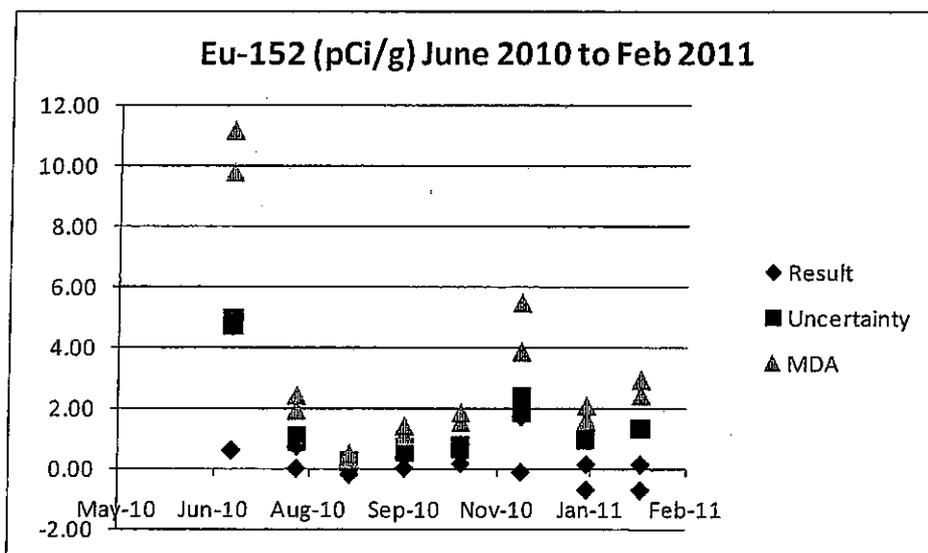
Department of Environment and Conservation and the City of Oak Ridge, there is good reason to believe that the net application areas of at least four of the six sites covered by this Draft EA could be significantly increased with the approval of the State. Since the Biosolids Program could benefit greatly with the addition of useable acreage which, incidentally, is already licensed to the City by DOE for this purpose, the City is requesting the wording of the proposed EA be flexible enough to allow the use of increased net acreage should TDEC indeed approve it.

3. The 100 feet buffer stipulated in the Draft EA for the large pond on the Rogers Site and for the central jurisdictional pond on the Scarboro Site should be reduced to 10 meters (33 feet) for those areas which are down gradient while retaining the 100 feet setback on up slope area; this will keep uniformity with the established criteria set forth in the Draft EA which were derived from the EPA regulations of 40 CFR Part 503 as well as the TDEC *Guidelines for the Land Application and Surface Disposal of Biosolids* (2011).
4. Naturally occurring radionuclides that are not technologically enhanced should not be identified as contaminants of concern (i.e., included in the list of radionuclides for which limits are established). There are no industrial, medical or DOE processes contributing to the levels of these radionuclides (e.g., Ra-226, Ra-228, Ac-227, Pa-231, Th-232, Pb-210, K-40, etc.) in the ORWWTP biosolids. These radionuclides are ubiquitous in the environment, and the sources to the treatment plant are human excreta (from food and water consumed) and water and soil that enter the sewer system. The levels of these naturally occurring in the ORWWTP sludge are comparable to the levels that would be present in any municipal sludge (actually lower than in areas where the drinking water source is groundwater) and essentially indistinguishable from the background levels of these radionuclides present in Oak Ridge soils.
5. The sludge limits should all be based on the TDEC approved dose limit of 10 mrem/year. At present, some limits are based on 4 mrem/year and others on 10 mrem. This is true for both naturally occurring and anthropenic radionuclides.

The purpose of the sludge limit is to ensure the acceptable soil levels on the land application site are not exceeded. For each radionuclide, the limit is calculated based on the assumption that all of the sludge that is land applied over the 50 year life of the site contains the radionuclide at the concentration limit. Therefore, it is the average concentration being land applied over time that is of interest, and short term exceedances do not make the biosolids unacceptable for land application. Therefore, it is recommended that the EA be revised to clarify that a running average is the appropriate point of comparison to the sludge limits, rather than a single measurement or the concentration observed over a relatively short period of time. Furthermore, because the radionuclide concentrations in the biosolids are typically near the detection limits, the counting errors tend to be large and the results highly variable, making comparisons that rely on a single data point unreliable.

Perspective:

The radionuclide levels in the biosolids are generally so low that they are below the detection limits making the counting errors large and the data variable. Therefore, a single measurement viewed alone does not provide meaningful information. For example, in the case of Eu-152 for which the sludge limit is 2.8 pCi/g, the maximum concentration reported in the ORWWTP biosolids over a seven month sampling period was 4.69 pCi/g. The lab qualified this result as "U" meaning it was analyzed for but not detected. The uncertainty reported for this results was 4.94 pCi/g (i.e., 105% of the result), and the reported MDA for the sample was 11.16 pCi/g. The following plot of the Eu-152 data in pCi/g demonstrates that the Eu-152 levels in the biosolids are far below the limit and essentially zero and that the maximum value reported is not meaningful and does not provide an appropriate metric for comparison to the sludge limit.



Perspective on Naturally Occurring Background Radionuclides:

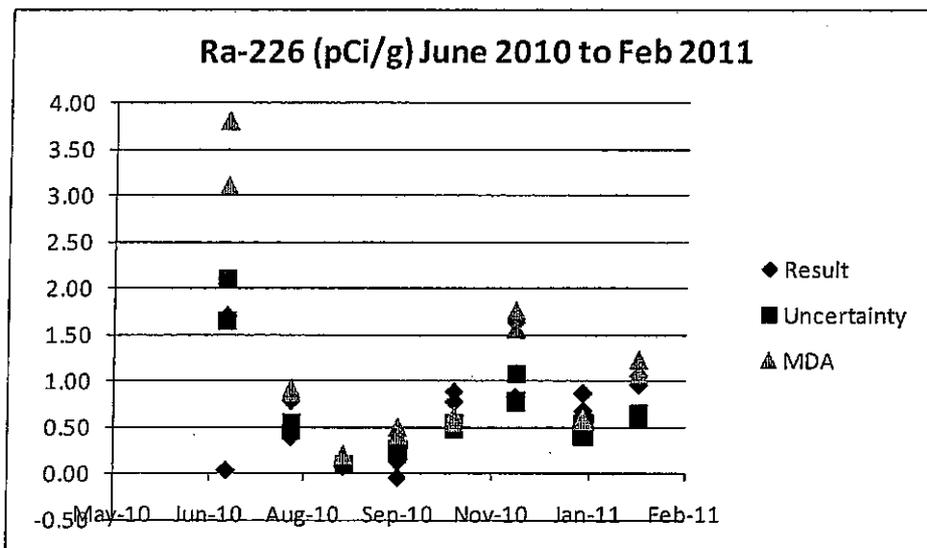
The following are provided as examples. The same conclusions can be drawn for the other naturally occurring radionuclides that are present in the biosolids solely as a result of their presence in the ambient environment (i.e., natural background radionuclides).

K-40: naturally occurring, soil background for K-40 on ORR range from 4.1 to 16.3 pCi/g, The EA establishes a sludge limit of 16 pCi/g. A maximum value of 16.7 was reported for the ORWWTP biosolids over a seven month sampling period. The result has a J qualifier, indicating an "estimated" value, and the reported counting error is 65% of the result (16.8 +/- 10.7). A duplicate result for the same sample was 9.97 +/- 10.19.

For perspective on the biosolids concentrations, the level of K-40 in dried fruits ranges from 3 to 10 pCi/g.

Ra-226: naturally occurring, soil background on ORR typically ranges from 0.8 to 1.3 pCi/g. The EA establishes a sludge limit of 0.32. A maximum value of 1.7 pCi/g was reported for the ORWWTP biosolids over a seven month sampling period. This result has a U qualifier, and the counting error is 122% of the result (1.7 +/- 2.09). A duplicate result for the same sample was 0.03 +/- 1.64. The following plot of the Ra-226 values reported for the biosolids in pCi/g) demonstrates that the Ra-226 levels in the biosolids are consistent with soil concentrations in the area.

For perspective on the biosolids concentrations, the cleanup criteria typically used by the EPA, NRC and DOE for Ra-226 is 5 pCi/g, and Ra-226 levels in common fertilizers range from 5 to 33 pCi/g.



Thank you for your consideration of these comments. Feel free to call me at (865) 425-3550 should you have any questions.

Sincerely,

Mark S. Watson
City Manager

Gary S. Hartman
July 26, 2011
Page 4

Distribution List:

Mayor and Members of Oak Ridge City Council
Amy Fitzgerald, Government & Public Affairs
Gary M. Cinder, Public Works Director
Susan Gawarecki, Executive Director, LOC