



LANL
Permit

TA-16-OB Risk Evaluation

Cobrain, Dave, NMENV

From: Bearzi, James, NMENV
Sent: Thursday, January 07, 2010 4:03 PM
To: 'Pete Domenici'; 'Lorraine Hollingsworth'; Turner, Gene E; 'luciana@lanl.gov'
Cc: Kieling, John, NMENV; De Saillan, Charles, NMENV; Bearzi, James, NMENV; Cobrain, Dave, NMENV; Pullen, Steve, NMENV; Paige Walton
Subject: RE: LANL Hearing Documents

NMED has considered Rich's comments with respect to evaluating avian toxicity for exposure to dioxins at TA-16. To recap, Rich indicated that is did not include avian receptors for dioxins as the toxicological data were based on studies using subcutaneous (intraperitoneal) injections (i.p.) that do not apply to the OB area and referenced a study posted in Sample, *et.al* 1996: Toxicological Benchmarks for Wildlife: 1996 Revision. NMED disagrees with LANL's position based upon information contained within the following EPA document:

Great Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife: DDT, Mercury, 2,3,7,8-TCDD, PCBs (EPA 820-B-95-008, March 1995) specifically states in the discussion of avian chronic and subchronic toxicity for 2,3,7,8-TCDD (Chapter 3) that "...it generally is acknowledged that i.p. and oral routes of exposure are similar because in both instances the chemical is absorbed by the liver, thereby permitting first-pass metabolism. Use of the i.p. dose levels assumes that 2,3,7,8-TCDD bioavailability and absorption form the gastrointestinal tract and the abdominal cavity are not significantly different (USEPA 1993)." The report does indicate that there is potential for both over- and under-estimation of absorption that would be assumed through ingestion. This should be discussed in the uncertainty analysis of the risk assessment.

Given the above, the no-observed adverse effect level (NOAEL) of 1.4E-02 ug/kg/day using the ring-necked pheasant by Nosek et al 1992 (as cited in the above referenced document) and as cited by Sample et al 1996), it is appropriate to use i.p. data for deriving a toxicity reference value (TRV) for avian receptors at TA-16. Use of any uncertainty factors that may be applied to derive a final TRV for use at TA-16 should be discussed in the risk assessment.

References:

Link to Lakes Water Quality Initiative Criteria Documents for the Protection of Wildlife: DDT, Mercury, 2,3,7,8-TCDD, PCBs t:

<http://nepis.epa.gov/Exe/ZyNET.exe/2000GZ40.txt?ZyActionD=ZyDocument&Client=EPA&Index=1995%20Thru%201999&Docs=&Query=%28tcdd%29%20OR%20FNAME%3D%222000GZ40.txt%22%20AND%20FNAME%3D%222000GZ40.txt%22&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=.3A%5CZYFILES%5CINDEX%20DATA%5C95THRU99%5CTXT%5C00000017%5C2000GZ40.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=10&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=7Cf&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1>

Link to Sample, et.al 1996:

www.esd.ornl.gov/programs/ecorisk/documents/tm86r3.pdf

Please forward this information to Rich. I don't seem to have his e-mail address

32339

1/7/2010



[Handwritten signature]

James P. Bearzi
Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505

505.476.6016
505.476.6030 fax

james.bearzi@state.nm.us