APPENDIX F

WEST END TREATMENT FACILITY TOTAL URANIUM CALCULATIONS

Daily WETF Uranium Impacts upon City of Oak Ridge Biosolids

Average Dry Tons Produced Per Year City of Oak Ridge Biosolids		Land Application Days per Year		Dry Tons Biosolids Produced Per Day
400	/	265	=	115

Dry Tons Biosolids Produced Per Day		lbs per ton		lbs per kg		Dry kgs Biosolids Produced Per Day
1.5	x	2,000	/	2.2	=	1,372.2

Total grams U Per Month Discharged From WETF		Days per Month		Total grams U Discharged Per Day from WETF
1,260	/	31	=	40.6

Total grams U Discharged Per Day from WETF		**Dry kgs Biosolids Produced Per Day**		**Total grams Per kg Increase in City Biosolids From WETF**
40.6	/	**1,372.2**	=	0.030

Cumulative WE TF Uranium Impacts upon ORR Biosolids Land Application Sites

Total grams U Per Month Discharged From WETF		Months Per Year WETF Discharge		Total grams U Discharged Per Year from WETF		mg per g		Total mg U Discharged Per Year from WETF
1,260	x	6	=	7,560	x	1,000	=	7.56E+06

Dry Tons Biosolids Produced Per Day		lbs per ton		Ibs per kg		Dry kgs Biosolids Produced Per Day
1.5	x	2,000	/	2.2	=	1,372.2

Dry kgs Biosolids Produced Per Day		Land Application Days per Year		Total kgs **Biosolids** Produced in 6 Months
1,372	x	133	=	182,504

Total mg U Discharged Per Year from WETF		**Total g Soil on the Smallest Land Application Site**		**Total mg/kg Increase on ORR Biosolids Site Per Year From WETF**		**Years - Average Remaining Life of Each Application Site**		**Total mg/kg Lifetime Increase on ORR Biosolids Site From WETF**
7.56E+06	/	**2.63E+10**	=	0.00029	x	**7**	=	**0.0020**

All results are calculated on a dry weight basis

Daily WETF Uranium Sanitary Sewer/NPDES Discharge Comparison

Maximum NPDES mg/l Total U Discharge Level		Gallons per hour Discharge Rate Through NPDES Point		Duration of Discharge in Hours Through NPDES Point		Liters Per. Gallon		mg Total U Discharged through NPDES Point Per Day		mg per kg		kg Total U Discharged through NPDES Point Per Day
0.048	x	1200	x	14.0	x	3.785	=	3,052.2	/	1.00E+06	=	0.003
Maximum Sanitary Sewer mg/l Total U Discharge Level		**Gallons per hour Discharge Rate to Sanitary Sewer**		**Duration of Discharge in Hours to Sanitary Sewer**		**Liters Per Gallon**		**mg Total U Discharged to Sanitary Sewer Per Day**		**mg per kg**		**kg Total U Discharged to Sanitary Sewer Per Day**
2.0	x	300	x	18.0	x	3.785	=	40,878.0	/	1.00E+06	=	0.041

Annual WETF Uranium Sanitary Sewer/NPDES Discharge Comparison

Maximum NPDES mg/l Total U Discharge Level		Total Gallons Discharged Through NPDES Point per Year		Liters Per Gallon		mg Total U Discharged through NPDES Point Per Year		mg per kg		kg Total U Discharged through NPDES Point Per Year
0.048	x	1.00E+06	x	3.785	=	181.680.0	/	1.00E+06	=	0.18
Maximum Sanitary Sewer mg/l Total U Discharge Level		**Gallons per hour Discharge Rate to Sanitary Sewer**		**Liters Per Gallon**		**mg Total U Discharged to Sanitary Sewer Per Day**		**mg per kg**		**kg Total U Discharged to Sanitary Sewer Per Year**
2.0	x	1.00E+06	x	3.785	=	7,570,000.0	/	1.00E+06	=	7.57