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Final Site-Wide Environmental Impact Statement for the Y-12 National Security Complex

Summary

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ACRONYMS AND ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
ASER	Annual Site Environmental Report
BLM	Bureau of Land Management
BWXT-Y12	BWX Technologies
CEQ	Council on Environmental Quality
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act*
CFR	Code of Federal Regulations
CRMP	Cultural Resource Management Plan
D&D	decontamination and decommissioning
DNFSB	Defense Nuclear Facilities Safety Board
DoD	Department Of Defense
DOE	U.S. Department of Energy
DP	Defense Programs
EDE	Effective dose equivalent
EFPC	East Fork Poplar Creek
EIS	Environmental Impact Statement
EM	Environmental Management
EMWMF	Environmental Management Waste Management Facility
EPA	U.S. Environmental Protection Agency
ERPG	Emergency Response Planning Guideline
ES&H	environment, safety and health
ETTP	East Tennessee Technology Park
FR	*Federal Register*
FY	Fiscal Year
ha	hectare
HEU	highly enriched uranium
IAEA	International Atomic Energy Agency
LCF	latent cancer fatality
LLW	low-level waste
LMES	Lockheed Martin Energy Systems, Inc.
LOS	Level-of-Service
MEI	maximally exposed individual
NAAQS	National Ambient Air Quality Standard
NABIR	Natural and Accelerated Bioremediation Research
NEPA	*National Environmental Policy Act*
NN	Nuclear Nonproliferation and National Security
NNSA	National Nuclear Security Administration
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NOI	Notice of Intent
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
ORO	Oak Ridge Operations
PCB	polychlorinated biphenyl
PEIS	Programmatic Environmental Impact Statement
PIDAS	Perimeter Intrusion Detection and Assessment System
R&D	research and development
ROD	Record of Decision
ROI	region of influence
S&D	Storage and Disposition

S-HEU	surplus highly enriched uranium
SHPO	State Historic Preservation Officer
SSM	Stockpile Stewardship and Management
SWEIS	Site-Wide Environmental Impact Statement
TDEC	Tennessee Department of Environment and Conservation
TLV	Threshold Limit Value
UEFPC	Upper East Fork Poplar Creek
VRM	Visual resource management
Y-12	Oak Ridge Y-12 National Security Complex

CHEMICALS AND UNITS OF MEASURE

AHF	anhydrous hydrogen fluoride
BTEX	benzene, toluene, ethylbenzene, and xylenes
Bq	Becquerel
C	Celsius
Ci	curie
$CC1_4$	carbon tetrachloride
cm	centimeters
CFC	chlorofluorocarbons
CO	carbon monoxide
dB	decibel
dBA	decibel A-weighted
DCE	1, 2-dichloroethylene
F	Fahrenheit
ft	feet
ft^2	square feet
ft^3	cubic feet
ft^3/s	cubic feet per second
g	grams
G	acceleration due to gravity
gal	gallons
GPD	gallons per day
gpm	gallons per minute
GPY	gallons per year
ha	hectares
hr	hour
in	inches
kg	kilograms
km	kilometers
km^2	square kilometers
KOH	potassium hydroxide
kV	kilovolts
kVA	kilovolt-ampere
kW	kilowatts
kWh	kilowatt hours
L	liters
lb	pounds
Li	lithium
LiD	lithium deuteride
LiH	lithium hydride
LiO	lithium oxide
m	meters
m^2	square meters
m^3	cubic meters
m/s	meters per second
Mbps	million bits per second
Mbtu	million British thermal unit

mCi	millicuries (one-thousandth of a curie)
mCi/mL	millicuries per milliliter
mg	milligram (one-thousandth of a gram)
mg/L	milligrams per liter
MGD	million gallons per day
MGY	million gallons per year
mi	miles
mi^2	square miles
MLD	million liters per day
MLY	million liters per year
mph	miles per hour
mrem	millirem (one-thousandth of a rem)
Mscf	million standard cubic feet
MVA	megavolt-ampere
MW	megawatt
MWe	megawatt electric
MWh	megawatt hour
MWt	megawatt thermal
NaK	sodium potassium
NaOCl	sodium hypochlorite
NaOH	sodium hydroxide
nCi	nanocurie (one-billionth of a curie)
nCi/g	nanocuries per gram
NO_2	nitrogen dioxide
NOX	nitrogen oxides
O_3	ozone
Pb	lead
PCB	polychlorinated biphenyl
PVC	polyvinyl chloride
pCi	picocurie (one-trillionth of a curie)
pCi/L	picocuries per liter
PM_{10}	particulate matter (less than 10 microns in diameter)
ppb	parts per billion
ppm	parts per million
psig	pounds per square inch gage
Ra	radium
rem	roentgen equivalent man
s	seconds
scf	standard cubic feet
scfd	standard cubic feet per day
scfm	standard cubic feet per minute
SO_2	sulfur dioxide
Sv	Sievert
t	metric tons
TATB	triaminotrinitrobenzene
TC	technetium
TCA	1, 1, 1-trichloroethane
TCE	trichloroethylene

Th	thorium
TNT	trinitrotoluene
UF_4	uranium tetraflouride
UF_6	uranium hexaflouride
VOC	volitile organic compound
yd^3	cubic yards
yr	year
µCi	microcurie (one-millionth of a curie)
µCi/g	microcuries per gram
µg	microgram (one-millionth of a gram)
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
$\mu g/m^3$	micrograms per cubic meter
µ	micron or micrometer (one-millionth of a meter)

CONVERSION CHART

To Convert Into Metric			To Convert Into English		
If You Know	**Multiply By**	**To Get**	**If You Know**	**Multiply By**	**To Get**
Length					
inch	2.54	centimeter	centimeter	0.3937	inch
feet	30.48	centimeter	centimeter	0.0328	feet
feet	0.3048	meter	meter	3.281	feet
yard	0.9144	meter	meter	1.0936	yard
mile	1.60934	kilometer	kilometer	0.62414	mile (Statute)
Area					
square inch	6.4516	square centimeter	square centimeter	0.155	square inch
square feet	0.092903	square meter	square meter	10.7639	square feet
square yard	0.8361	square meter	square meter	1.196	square yard
acre	0.40469	hectare	hectare	2.471	acre
square mile	2.58999	square kilometer	square kilometer	0.3861	square mile
Volume					
fluid ounce	29.574	milliliter	milliliter	0.0338	fluid ounce
gallon	3.7854	liter	liter	0.26417	gallon
cubic feet	0.028317	cubic meter	cubic meter	35.315	cubic feet
cubic yard	0.76455	cubic meter	cubic meter	1.308	cubic yard
Weight					
ounce	28.3495	gram	gram	0.03527	ounce
pound	0.45360	kilogram	kilogram	2.2046	pound
short ton	0.90718	metric ton	metric ton	1.1023	short ton
Force					
dyne	0.00001	newton	newton	100,000	dyne
Temperature					
Fahrenheit	Subtract 32 then multiply by 5/9ths	Celsius	Celsius	Multiply by 9/5ths, then add 32	Fahrenheit

METRIC PREFIXES

Prefix	Symbol	Multiplication Factor		
exa-	E	1 000 000 000 000 000 000	=	10^{18}
peta-	P	1 000 000 000 000 000	=	10^{15}
tera-	T	1 000 000 000 000	=	10^{12}
giga-	G	1 000 000 000	=	10^{9}
mega-	M	1 000 000	=	10^{6}
kilo-	k	1 000	=	10^{3}
hecto-	h	l00	=	10^{2}
deka-	da	l0	=	10^{1}
deci-	d	0.1	=	10^{-1}
centi-	c	0.01	=	10^{-2}
milli-	m	0.001	=	10^{-3}
micro-	µ	0.000 001	=	10^{-6}
nano-	n	0.000 000 001	=	10^{-9}
pico-	p	0.000 000 000 001	=	10^{-12}
femto-	f	0.000 000 000 000 001	=	10^{-15}
atto-	a	0.000 000 000 000 000 001	=	10^{-18}