



6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL-9925-10-Region-5]

Notice of Final Decision to Reissue the Vickery Environmental, Inc. Land-Ban Exemption

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of Final Decision on a Request by Vickery Environmental, Inc. of Vickery, Ohio to Reissue its Exemption from the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act.

SUMMARY: Notice is hereby given by the U.S. Environmental Protection Agency (U.S. EPA or Agency) that an exemption to the land disposal restrictions under the 1984 Hazardous and Solid Waste Amendments (HSWA) to the Resource Conservation and Recovery Act (RCRA) has been granted to Vickery Environmental, Inc. (VEI) of Vickery, Ohio for four Class I injection wells located in Vickery, Ohio. As required by 40 CFR part 148, VEI has demonstrated, to a reasonable degree of certainty, that there will be no migration of hazardous constituents out of the injection zone or into an underground source of drinking water (USDW) for at least 10,000 years. This final decision allows the continued underground injection by VEI of only those hazardous wastes designated by the codes in Table 1 through its four Class I hazardous waste injection wells identified as #2, #4, #5 and #6. This decision constitutes a final U.S. EPA action for which there is no administrative appeal.

DATES: This action is effective as of **[INSERT DATE OF PUBLICATION IN THE**

FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: Stephen Roy, Lead Petition Reviewer, U.S.

U.S. EPA, Region 5, Water Division, Underground Injection Control Branch, WU-16J,

Environmental Protection Agency, 77 W. Jackson Blvd., Chicago, Illinois 60604-3590;

telephone number: (312) 886-6556; fax number (312) 692-2951; email address:

roy.stephen@epa.gov. Copies of the petition and all pertinent information are on file and are

part of the Administrative Record. It is recommended that you contact the lead reviewer prior to reviewing the Administrative Record.

SUPPLEMENTARY INFORMATION:

VEI submitted a request for reissuance of its existing exemption from the land disposal restrictions of hazardous waste in September, 2007. U.S. EPA staff reviewed all data pertaining to the petition, including, but not limited to, well construction, well operations, regional and local geology, seismic activity, penetrations of the confining zone, and computational models of the injection zone. U.S. EPA has determined that the hydrogeological and geochemical conditions at the site and the nature of the waste streams are such that reliable predictions can be made that fluid movement conditions are such that injected fluids will not migrate out of the injection zone within 10,000 years, as set forth at 40 CFR part 148. The injection zone includes the injection interval into which fluid is directly emplaced and the overlying arrestment interval into which it may diffuse. The injection interval for the VEI facility is composed of the Mt. Simon Sandstone between 2791 and 2950 feet below ground level. The arrestment interval for the VEI facility is composed of the Rome, Conasauga, Kerbel and Knox Formations between 2360 and 2791 feet below ground level. The confining zone at the VEI facility is composed of

the Black River and Wells Creek Formations between 1816 and 2360 feet below ground level. The confining zone is separated from the lowermost underground source of drinking water (at a depth of 574 feet below ground level) by a sequence of permeable and less permeable sedimentary rocks. This sequence provides additional protection from fluid migration into drinking water sources.

U.S. EPA issued a draft decision, which described the reasons for granting this exemption in more detail, a fact sheet, which summarized these reasons, and a public notice on December 5, 2014, pursuant to 40 CFR 124.10. U.S. EPA held a public hearing on January 8, 2015, but no one elected to comment on the draft decision at the hearing. The public comment period ended on January 20, 2015. U.S. EPA received comments from VEI but no other parties during the comment period. U.S. EPA has prepared a response to VEI's comments, which can be viewed at the following URL: <http://www.epa.gov/region5/water/uic/pubpdf/vei-response-to-comments.pdf>. This document is part of the Administrative Record for this decision. U.S. EPA is issuing the final exemption with the changes identified in the response to comments.

Conditions

This exemption is subject to the following conditions. Non-compliance with any of these conditions is grounds for termination of the exemption:

- 1) The exemption applies to the four existing hazardous waste injection wells, #2, #4, #5, and #6 located at the VEI facility at 3956 State Route 412, Vickery, Ohio.
- 2) Injection of restricted hazardous waste is limited to the part of the Mt. Simon Sandstone at depths between 2791 and 2950 feet below the surface level.
- 3) Only restricted wastes designated by the RCRA waste codes found in Table 1 may be injected.

- 4) Maximum concentrations of chemicals that are allowed to be injected are listed in Table 2.
- 5) The average specific gravity of the injected waste stream must be no less than 1.08 over a one-year period.
- 6) VEI may inject up to a combined total of 240 gallons per minute into Well #2, #4, #5, and #6, based on a monthly average.
- 7) This exemption is approved for the 20-year modeled injection period, which ends on June 30, 2027. VEI may petition U.S. EPA for a reissuance of the exemption beyond that date, provided that a new and complete petition and no-migration demonstration is received at U.S. EPA, Region 5, by January 31, 2027.
- 8) VEI must submit, within 90 days after the exemption is granted, an approvable plan to demonstrate that chemicals listed in Table 2 are not or cannot be injected above the listed limits. Upon U.S. EPA's approval of this plan, VEI shall implement the plan per the schedule in the approved plan.
- 9) VEI must submit copies of the reports on the annual bottom-hole pressure surveys conducted in well #2, #4, #5 or #6 to U.S. EPA when these reports are submitted to the Ohio Environmental Protection Agency (Ohio EPA). The reports must include a comparison of reservoir parameters determined from the fall-off test, such as permeability and long-term shut-in pressure, with parameters used in the approved no-migration petition.
- 10) VEI must submit copies of the reports on the annual radioactive tracer surveys and annulus pressure tests for wells #2, #4, #5 and #6 to U.S. EPA when these reports are submitted to Ohio EPA.

- 11)** VEI shall notify U.S. EPA in writing if any injection well loses mechanical integrity, prior to any workover or plugging when these notifications are submitted to Ohio EPA.
- 12)** The petitioner must fully comply with all requirements set forth in Underground Injection Control Permits 03-72-009-PTO-I, 03-72-011-PTO-I, 03-72-012-PTO-I, and 03-72-013-PTO-I issued by Ohio EPA.
- 13)** Upon the expiration, cancellation, reissuance, or modification of the permits referenced above, this exemption is subject to review.
- 14)** Whenever U.S. EPA determines that the basis for approval of a petition under 40 CFR §§ 148.23 and 148.24 may no longer be valid, U.S. EPA may terminate this exemption and will require a new demonstration in accordance with 40 CFR § 148.20.

Table 1. List of RCRA waste codes approved for injection.

D001	D002	D003	D004	D005	D006	D007	D008	D009	D010	D011	D012
D013	D014	D015	D016	D017	D018	D019	D020	D021	D022	D023	D024
D025	D026	D027	D028	D029	D030	D031	D032	D033	D034	D035	D036
D037	D038	D039	D040	D041	D042	D043	F001	F002	F003	F004	F005
F006	F007	F008	F009	F010	F011	F012	F019	F020	F021	F022	F023
F024	F025	F026	F027	F028	F032	F034	F035	F037	F038	F039	K001
K002	K003	K004	K005	K006	K007	K008	K009	K010	K011	K013	K014
K015	K016	K017	K018	K019	K020	K021	K022	K023	K024	K025	K026
K027	K028	K029	K030	K031	K032	K033	K034	K035	K036	K037	K038
K039	K040	K041	K042	K043	K044	K045	K046	K047	K048	K049	K050
K051	K052	K060	K061	K062	K069	K071	K073	K083	K084	K085	K086
K087	K088	K093	K094	K095	K096	K097	K098	K099	K100	K101	K102
K103	K104	K105	K106	K107	K108	K109	K110	K111	K112	K113	K114
K115	K116	K117	K118	K123	K124	K125	K126	K131	K132	K136	K140
K141	K142	K143	K144	K145	K147	K148	K149	K150	K151	K156	K157
K158	K159	K161	K169	K170	K171	K172	K174	K175	K176	K177	K178
K181	P001	P002	P003	P004	P005	P006	P007	P008	P009	P010	P011
P012	P013	P014	P015	P016	P017	P018	P020	P021	P022	P023	P024
P026	P027	P028	P029	P030	P031	P033	P034	P036	P037	P038	P039
P040	P041	P042	P043	P044	P045	P046	P047	P048	P049	P050	P051
P054	P056	P057	P058	P059	P060	P062	P063	P064	P065	P066	P067
P068	P069	P070	P071	P072	P073	P074	P075	P076	P077	P078	P081
P082	P084	P085	P087	P088	P089	P092	P093	P094	P095	P096	P097

P098	P099	P101	P102	P103	P104	P105	P106	P108	P109	P110	P111
P112	P113	P114	P115	P116	P118	P119	P120	P121	P122	P123	P127
P128	P185	P188	P189	P190	P191	P192	P194	P196	P197	P198	P199
P201	P202	P203	P204	P205	U001	U002	U003	U004	U005	U006	U007
U008	U009	U010	U011	U012	U014	U015	U016	U017	U018	U019	U020
U021	U022	U023	U024	U025	U026	U027	U028	U029	U030	U031	U032
U033	U034	U035	U036	U037	U038	U039	U041	U042	U043	U044	U045
U046	U047	U048	U049	U050	U051	U052	U053	U055	U056	U057	U058
U059	U060	U061	U062	U063	U064	U066	U067	U068	U069	U070	U071
U072	U073	U074	U075	U076	U077	U078	U079	U080	U081	U082	U083
U084	U085	U086	U087	U088	U089	U090	U091	U092	U093	U094	U095
U096	U097	U098	U099	U101	U102	U103	U105	U106	U107	U108	U109
U110	U111	U112	U113	U114	U115	U116	U117	U118	U119	U120	U121
U122	U123	U124	U125	U126	U127	U128	U129	U130	U131	U132	U133
U134	U135	U136	U137	U138	U139	U140	U141	U142	U143	U144	U145
U146	U147	U148	U149	U150	U151	U152	U153	U154	U155	U156	U157
U158	U159	U160	U161	U162	U163	U164	U165	U166	U167	U168	U169
U170	U171	U172	U173	U174	U176	U177	U178	U179	U180	U181	U182
U183	U184	U185	U186	U187	U188	U189	U190	U191	U192	U193	U194
U196	U197	U200	U201	U202	U203	U204	U205	U206	U207	U208	U209
U210	U211	U213	U214	U215	U216	U217	U218	U219	U220	U221	U222
U223	U225	U226	U227	U228	U234	U235	U236	U237	U238	U239	U240
U243	U244	U246	U247	U248	U249	U271	U278	U279	U280	U328	U353
U359	U364	U367	U372	U373	U387	U389	U394	U395	U404	U409	U410
U411											

Table 2. Maximum concentrations of chemical contaminants that are hazardous at less than one part per billion.

Chemical Constituent	Health Based Limit (mg/L)	Maximum Allowable Initial Concentration (mg/L)	Vickery Limit (%)
Acetyl chloride	2.00E-04	2.00E+05	20
Acrylamide (2-Propenamide)	8.00E-06	8.00E+03	0.80
Acrylonitrile (2-Propenenitrile or Vinyl Cyanide)	6.00E-05	6.00E+04	6.00
Aldrin	2.00E-07	2.00E+02	0.02
Allyl Chloride (3-chloroprop(yl)ene)	3.00E-05	3.00E+04	3.00
Bendiocarb (2,2-Dimethyl-1,3-benzodioxol methylcarbamate)	3.00E-04	3.00E+05	30
Benzal chloride	2.00E-05	2.00E+04	2.0
Benz[a]anthracene (1,2-Benzanthracene)	1.30E-04	1.30E+05	13
Benzidine	2.00E-07	2.00E+02	0.02

Benzo[b]fluoranthene	1.80E-04	1.80E+05	18
Benzo[k]fluoranthene	1.70E-04	1.70E+05	17
Benzo[g,h,i]-perylene	7.60E-04	7.60E+05	76
Benzo[a]pyrene	2.00E-04	2.00E+05	20
Benzotrichloride	3.00E-06	3.00E+03	0.30
Benzyl chloride ((Chloromethyl)benzene)	2.00E-04	2.00E+05	20
alpha BHC (see Lindane) alpha-hexachlorocyclohexane	6.00E-06	6.00E+03	0.60
beta BHC (see Lindane) beta-hexachlorocyclohexane	2.00E-05	2.00E+04	2
delta BHC (see Lindane) delta-hexachlorocyclohexane	2.00E-04	2.00E+05	20
Bromoacetone (1-Bromo-2-propanone)	3.00E-05	3.00E+04	3
Bromodichloromethane (Trihalomethane)	6.00E-04	6.00E+05	60
Brucine (2,3-Dimethoxystrychnidin-10-one)	3.00E-04	3.00E+05	30
Carbendazim (1H-benzimidazol-2-yl carbamic acid methyl ester)	4.00E-04	4.00E+05	40
Carbon oxyfluoride	5.00E-04	5.00E+05	50
Chlorinated fluorocarbons, not otherwise specified	5.00E-04	5.00E+05	50
Chloroacetaldehyde	5.90E-04	5.90E+05	59
Chlorodibromomethane	4.00E-04	4.00E+05	40
Chloroethers	3.00E-05	3.00E+04	3
2-Chloroethyl vinyl ether	3.00E-05	3.00E+04	3
Chloromethyl methyl ether	3.00E-05	3.00E+04	3
Chloroprene	3.00E-05	3.00E+04	3
m-Cumenyl methylcarbamate	3.00E-04	3.00E+05	30
Cyclohexane	9.00E-05	9.00E+04	9
2,4-Dichlorophenoxyacetic acid (2,4-D), salts, esters	2.00E-04	2.00E+05	20
p,p'-Dichlorodipheylchloroethane (p,p'-DDD)	1.00E-04	1.00E+05	10
p,p'-Dichlorodipheylchloroethylene (p,p'-DDE)	1.00E-04	1.00E+05	10
p,p'-Dichlorodipheyltrichloroethane (p,p'-DDT)	1.00E-04	1.00E+05	10
Dibenz[a,h]anthracene	3.00E-04	3.00E+05	30
Dibromochloropropane	2.00E-04	2.00E+05	20
2,3-Dibromo-1-propanol phosphate(3:1)	3.00E-04	3.00E+05	30
Dichlorobenzene	2.00E-04	2.00E+05	20
3,3'-Dichlorobenzidine	8.00E-05	8.00E+04	8
sym-Dichloroethyl ether	3.00E-05	3.00E+04	3
sym-Dichloromethyl ether	1.60E-07	1.60E+02	0.016
Dichloropropane	6.00E-05	6.00E+04	6
Dichloropropanol	6.00E-05	6.00E+04	6

Dichloropropene	3.00E-05	3.00E+04	3
cis-1,3-Dichloropropene	3.00E-05	3.00E+04	3
trans-1,3-Dichloropropene	3.00E-05	3.00E+04	3
Dieldrin	2.00E-06	2.00E+03	0.2
Diethylene glycol, dicarbamate	3.00E-04	3.00E+05	30
O,O-Diethyl O-pyrazinyl phosphorothioate	4.00E-04	4.00E+05	40
Dimetilan	3.00E-04	3.00E+05	30
2,6-Dinitrotoluene	3.10E-04	3.10E+05	31
Di-n-octyl phthalate	4.90E-04	4.90E+05	49
Di-n-propylnitrosamine	5.00E-06	5.00E+03	0.5
1,2-Diphenylhydrazine	5.00E-05	5.00E+04	5
Dithiocarbamates (total)	9.00E-04	9.00E+05	90
Ethylene dibromide	5.00E-05	5.00E+04	5
Ethylidene chloride	7.00E-04	7.00E+05	70
Famphur	3.00E-04	3.00E+05	30
Fluoroacetic acid, sodium salt	7.00E-04	7.00E+05	70
Formetanate hydrochloride	3.00E-04	3.00E+05	30
Formparanate	3.00E-04	3.00E+05	30
Heptachlor (and its epoxide)	2.00E-04	2.00E+05	20
1,2,3,4,6,7,8-Heptachlorodibenzofuran	2.50E-05	2.50E+04	2.5
1,2,3,4,7,8,9-Heptachlorodibenzofuran	2.50E-05	2.50E+04	2.5
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2.50E-05	2.50E+04	2.5
Hexachlorobutadiene	5.00E-04	5.00E+05	50
Hexachlorodibenzo-p-dioxins	2.50E-05	2.50E+04	2.5
Hexaethyl tetraphosphate	4.00E-04	4.00E+05	40
Hydrazine	1.00E-05	1.00E+04	1
Indeno[1,2,3-cd] pyrene	4.30E-04	4.30E+05	43
Isolan	3.00E-04	3.00E+05	30
Lindane (1,2,3,4,5,6-hexa-chlorocyclohexane, gamma isomer)	2.00E-04	2.00E+05	20
Manganese dimethyldithiocarbamate	9.00E-04	9.00E+05	90
Mercury fulminate	1.00E-04	1.00E+05	10
Methiocarb	5.00E-04	5.00E+05	50
Methyl chlorocarbonate	5.90E-04	5.90E+05	59
Metolcarb	3.00E-04	3.00E+05	30
N-methyl-N'-nitro-N-nitroso-guanidine (MNNG)	1.50E-04	1.50E+05	15
Naphthalene	6.00E-04	6.00E+05	60
p-Nitrophenol	1.30E-04	1.30E+05	13
N-Nitrosodiethanolamine	1.00E-05	1.00E+04	1
N-Nitrosodiethylamine	2.00E-07	2.00E+02	0.02
N-Nitrosodimethylamine	7.00E-07	7.00E+02	0.07

N-Nitrosodi-n-butylamine	6.00E-06	6.00E+03	0.6
N-Nitrosomethylethylamine	2.00E-06	2.00E+03	0.2
N-Nitrosomethylvinylamine	1.50E-04	1.50E+05	15
N-Nitroso-N-methylurea	1.50E-04	1.50E+05	15
N-Nitroso-N-methlurethane	1.50E-04	1.50E+05	15
N-Nitrosopyrrolidine	2.00E-05	2.00E+04	2
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	5.00E-05	5.00E+04	5
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	5.00E-05	5.00E+04	5
Parathion	6.00E-04	6.00E+05	60
Pebulate	8.00E-04	8.00E+05	80
Pentachlorodibenzofurans, total	2.50E-05	2.50E+04	2.5
Pentachlorodibenzo-p-dioxin, total	2.50E-05	2.50E+04	2.5
Pentachlorophenols and their chlorophenoxy derivative acids, esters amines and salts	7.60E-05	7.60E+04	7.6
1,3-Pentadiene	3.00E-05	3.00E+04	3
Phorate	3.00E-04	3.00E+05	30
Phosgene	2.00E-04	2.00E+05	20
Phosphorithioic and phosphordithioic acid esters	3.00E-04	3.00E+05	30
Physostigmine	3.00E-04	3.00E+05	30
Physostigmine salicylate	3.00E-04	3.00E+05	30
Polychlorinated Biphenyls	5.00E-04	5.00E+05	50
Prosulfocarb	6.00E-04	6.00E+05	60
Reserpine	3.00E-04	3.00E+05	30
Streptozotocin	1.50E-04	1.50E+05	15
Sulfur phosphide	3.00E-04	3.00E+05	30
Tars	3.00E-04	3.00E+05	30
Tetrachlorodibenzofurans	1.00E-05	1.00E+04	1
Tetrachlorodibenzo-p-dioxins	3.00E-08	3.00E+01	0.003
1,1,2,2-Tetrachloroethane	2.00E-04	2.00E+05	20
Tetraethyl lead	3.50E-06	3.50E+03	0.35
Thiodicarb	3.00E-04	3.00E+05	30
Thiofanox	3.00E-04	3.00E+05	30
Tirpate	3.00E-04	3.00E+05	30
Trichlorobenzene	1.20E-04	1.20E+05	12
Trichloromethanethiol	2.00E-04	2.00E+05	20
Triethylamine	5.00E-04	5.00E+05	50

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Dated: March 10, 2015.

Kevin M. Pierard,

Acting Director, Water Division.

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