

ILLINOIS POLLUTION CONTROL BOARD
December 21, 2000

IN THE MATTER OF:)
)
PROPOSED AMENDMENTS TO TIERED) R00-19(A)
APPROACH TO CORRECTIVE ACTION) (Rulemaking – Land)
OBJECTIVES (TACO) (35 ILL. ADM. CODE)
742))

Adopted Rule. Final Order.

OPINION AND ORDER OF THE BOARD (by E.Z. Kezelis, M. McFawn, N.J. Melas):

By today’s order, the Board adopts amendments to the Tiered Approach to Corrective Action Objectives found at 35 Ill. Adm. Code 742 of the Board’s land regulations, and commonly referred to as the TACO rules. The TACO rules were originally adopted by the Board on June 5, 1997, In re Tiered Approach to Corrective Action Objectives (TACO): 35 Ill. Adm. Code 742, R97-12(A). Part 742 contains procedures for developing remediation objectives based on risks to human health and the environment posed by environmental conditions at sites undergoing remediation in the Site Remediation Program, the Leaking Underground Storage Tank Program, and pursuant to Resource Conservation and Recovery Act (RCRA) Part B permits and closures.

PROCEDURAL HISTORY

Subdocket (A)

On May 15, 2000, the Illinois Environmental Protection Agency (Agency) submitted proposed amendments to TACO. The Board’s adoption of these amendments is authorized by Sections 27 and 28 of the Environmental Protection Act (Act) (415 ILCS 5/27, 28 (1998)).

The Board moved the Agency’s proposal to first notice on July 27, 2000. In doing so, the Board divided the proposal into two subdockets based upon subject matter. Most of the amendments proposed in this Subdocket A are required by Public Act 91-909, which was signed and became effective July 7, 2000. Among other things, it created a new institutional control, known as the Environmental Land Use Control or “ELUC” for use under the TACO regulations. Public Act 91-909 requires regulations to be adopted implementing the ELUC by no later than January 6, 2001.

The Board held public hearings in Chicago, on August 25 and September 21, 2000, and in Springfield on September 11, 2000.¹ Numerous witnesses testified on behalf of the proposal for the Agency. In addition, testimony was also received from representatives of the United States Department of Defense, the United States General Services Administration, the Site

¹ The transcripts of the hearings will be cited as “Tr. (8/25/00) at ___” and “Tr. (9/11/00) at ___.”

Remediation Advisory Committee, the Illinois Department of Transportation, and the Illinois Petroleum Council.

Public comments were accepted by the Board through October 23, 2000. Four public comments were received specifically in this Subdocket A from the following: Illinois Environmental Regulatory Group (PC 1); Illinois Steel Group (PC 2); Stolar Partnership (PC 3); and the Agency (PC 4). Additionally, five public comments were received in Subdocket B of R00-19, which prompted action in this matter. Those Subdocket B comments were as follows: Mitroff Companies (PC 3); Home Builders Association of Illinois (PC 5); The Green Environmental Group, Ltd. (PC 6); Home Builders Association of Greater Chicago (PC 7); and the Village of Palatine (PC 8).

The above-referenced public comments submitted in Subdocket B encouraged the Board to expedite adoption of the proposed amendments to the background arsenic levels contained in Part 742, Appendix A, Table G. In response to these compelling public comments, the Board transferred Appendix A, Table G from Subdocket B to Subdocket A, and then proceeded with it to second notice. It is important to note that Appendix A, Table G was a portion of the Board's original Subdocket B proceeding that was also adopted for first notice on July 27, 2000, and for which hearings were held in conjunction with those held in Subdocket A. Because the Board is not yet ready to proceed with second notice for the entirety of Subdocket B, we concluded that adoption of the arsenic background table should be expedited in this Subdocket A.

On November 16, 2000, the Board adopted its second notice opinion and order, and sent this matter to the Joint Committee on Administrative Rules (JCAR) for its consideration. See *In re Proposed Amendments to Tiered Approach to Corrective Action Objectives (TACO) (35 Ill. Adm. Code 742)* (November 16, 2000), R00-19(A). JCAR requested, and the Board agreed to, a few minor changes to the rules proposed at second notice. JCAR then considered the proposed rule at its December 12, 2000 meeting and voted a procedural objection to the Board's inclusion of Appendix A, Table G in this Subdocket A.

The Board acknowledges the objection and respectfully disagrees with JCAR's conclusion. The Board continues to believe that it was well within the procedural directives of the Act and of the Administrative Procedures Act (5 ILCS 100/1 *et seq.* (1998)) in its decision to incorporate Appendix A, Table G into this Subdocket A. The Board currently has two subdockets open in this rulemaking; R00-19(A) and R00-19(B). Both subdockets were adopted for first notice at the Board's July 27, 2000 meeting. Both were published in the *Illinois Register*. Both proceeded to hearing simultaneously on August 25, September 11, and September 21, 2000. Public comments were received in both subdockets. Because the Board finds that it is both reasonable and prudent for it to adopt as final Appendix A, Table G as part of this subdocket, the Board adopts the proposed rules today without substantive change from second notice.

SUMMARY OF THE TACO AMENDMENTS

There are two major areas involved in these Subdocket A rules: (1) institutional controls and (2) arsenic background levels.

Institutional Controls

With the adoption of the ELUC in Pub. Act 91-909, Section 742.1010 has been completely rewritten, and the terms “restrictive covenants,” “deed restrictions,” and “negative easements” have been deleted from the TACO regulations. The ELUC replaces each of those terms as the generally authorized institutional control under TACO. The ELUC will be used as an institutional control in those instances where a “No Further Remediation Letter” cannot be issued. Tr. (8/25/00) at 18.

Additionally, in response to concerns from the United States Department of Defense (DOD), the Board created the Land Use Control Memorandum of Agreement (LUC MOA) as the generally authorized institutional control for federal “nonexcess” properties within the State of Illinois for which the federal landholding entity lacks the ability to deed record land use restrictions. “Nonexcess” property is federal property that is being managed indefinitely by the federal government and which is not being transferred from government to private hands. Tr. (8/25/00) at 33. The federal government, through DOD representatives, asked that it be exempted from the ELUC provisions. DOD Ex. 1; Tr. (8/25/00) at 32. As a result, the Board adopted the LUC MOA provisions found at Section 742.1012.

With this final opinion and order, the Board wishes to clarify that the LUC MOA is intended to have and shall have the same effect and may be used under the same circumstances by federal landholding entities as those in which an ELUC would be used under Section 742.1010. The Board intends for Section 742.1012 to give federal government entities the same protections and benefits of Section 742.1010 while they own property in Illinois. The LUC MOA is viewed by this Board as the equivalent of the ELUC, except that it is to be utilized only by federal landholding entities.

As a result of public comments received regarding implementation of the ELUC amendments, the Board added a new subsection, Section 742.1010(b)(5), at second notice. To avoid any potential confusion regarding the implementation of the ELUC provisions, we reiterate our intention here. Of specific concern are those sites currently involved in a TACO-based remediation project. If, upon the effective date of these amendments, a request for a no further remediation determination has already been submitted to the Agency, then the institutional control utilized in that request may continue to be used. Conversely, for those requests submitted to the Agency after the effective date of these amendments, the ELUC must be used. The Board has, in response to a request from JCAR, incorporated a January 6, 2001 effective date into this rule.

Arsenic Background Levels

Today, the Board also adopts the proposed revision to the background levels for arsenic that were originally contained in Subdocket B. As previously stated, the Board incorporated Table G into this Subdocket A in response to compelling public comment requesting that

adoption of the revised standards be expedited. See page 2 *supra*, for the list of those public comments.

The Agency recommended this change to the allowable background concentrations of arsenic “due to the large number of sites in Illinois where naturally occurring levels of arsenic exceed the risk-based remediation objectives for the residential and industrial/commercial scenarios.” Agency Ex. 1 (Sullinger) at 2. Because background concentrations of naturally occurring arsenic are actually higher than those levels currently listed as background levels, and because compelling arguments have been made for the expedition of this standard, the Board today adopts the changes to Appendix A, Table G.

ORDER

The Board hereby adopts these amendments to the TACO regulations. Accordingly, the Board directs the Clerk to file the following adopted amendments with the Secretary of State. These amendments will have an effective date of January 6, 2001.

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE G: WASTE DISPOSAL
CHAPTER I: POLLUTION CONTROL BOARD
SUBCHAPTER f: RISK BASED CLEANUP OBJECTIVES

PART 742
TIERED APPROACH TO CORRECTIVE ACTION OBJECTIVES

SUBPART A: INTRODUCTION

Section	
742.100	Intent and Purpose
742.105	Applicability
742.110	Overview of Tiered Approach
742.115	Key Elements
742.120	Site Characterization

SUBPART B: GENERAL

Section	
742.200	Definitions
742.205	Severability
742.210	Incorporations by Reference
742.215	Determination of Soil Attenuation Capacity
742.220	Determination of Soil Saturation Limit
742.225	Demonstration of Compliance with Remediation Objectives
742.230	Agency Review and Approval

SUBPART C: EXPOSURE ROUTE EVALUATIONS

Section

742.300	Exclusion of Exposure Route
742.305	Contaminant Source and Free Product Determination
742.310	Inhalation Exposure Route
742.315	Soil Ingestion Exposure Route
742.320	Groundwater Ingestion Exposure Route

SUBPART D: DETERMINING AREA BACKGROUND

Section	
742.400	Area Background
742.405	Determination of Area Background for Soil
742.410	Determination of Area Background for Groundwater
742.415	Use of Area Background Concentrations

SUBPART E: TIER 1 EVALUATION

Section	
742.500	Tier 1 Evaluation Overview
742.505	Tier 1 Soil and Groundwater Remediation Objectives
742.510	Tier 1 Remediation Objectives Tables

SUBPART F: TIER 2 GENERAL EVALUATION

Section	
742.600	Tier 2 Evaluation Overview
742.605	Land Use
742.610	Chemical and Site Properties

SUBPART G: TIER 2 SOIL EVALUATION

Section	
742.700	Tier 2 Soil Evaluation Overview
742.705	Parameters for Soil Remediation Objective Equations
742.710	SSL Soil Equations
742.715	RBCA Soil Equations
742.720	Chemicals with Cumulative Noncarcinogenic Effects

SUBPART H: TIER 2 GROUNDWATER EVALUATION

Section	
742.800	Tier 2 Groundwater Evaluation Overview
742.805	Tier 2 Groundwater Remediation Objectives
742.810	Calculations to Predict Impacts from Remaining Groundwater Contamination

SUBPART I: TIER 3 EVALUATION

Section	
742.900	Tier 3 Evaluation Overview
742.905	Modifications of Parameters
742.910	Alternative Models
742.915	Formal Risk Assessments
742.920	Impractical Remediation
742.925	Exposure Routes
742.930	Derivation of Toxicological Data

SUBPART J: INSTITUTIONAL CONTROLS

Section	
742.1000	Institutional Controls
742.1005	No Further Remediation Letters
742.1010	Restrictive Covenants, Deed Restrictions and Negative Easements <u>Environmental Land Use Controls</u>
742.1012	<u>Federally Owned Property: Land Use Control Memorandums of Agreement</u>
742.1015	Ordinances
742.1020	Highway Authority Agreements

SUBPART K: ENGINEERED BARRIERS

Section	
742.1100	Engineered Barriers
742.1105	Engineered Barrier Requirements

APPENDIX A General

ILLUSTRATION A	Developing Soil Remediation Objectives Under the Tiered Approach
ILLUSTRATION B	Developing Groundwater Remediation Objectives Under the Tiered Approach
TABLE A	Soil Saturation Limits (C_{sat}) for Chemicals Whose Melting Point is Less than 30°C
TABLE B	Tolerance Factor (K)
TABLE C	Coefficients $\{A_{N-I+1}\}$ for W Test of Normality, for $N=2(1)50$
TABLE D	Percentage Points of the W Test for $N=3(1)50$
TABLE E	Similar-Acting Noncarcinogenic Chemicals
TABLE F	Similar-Acting Carcinogenic Chemicals
TABLE G	Concentrations of Inorganic Chemicals in Background Soils
TABLE H	Chemicals Whose Tier 1 Class I Groundwater Remediation Objective Exceeds the 1 in 1,000,000 Cancer Risk Concentration

APPENDIX B Tier 1 Tables and Illustrations

ILLUSTRATION A	Tier 1 Evaluation
TABLE A	Tier 1 Soil Remediation Objectives for Residential Properties

TABLE B	Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties
TABLE C	pH Specific Soil Remediation Objectives for Inorganics and Ionizing Organics for the Soil Component of the Groundwater Ingestion Route (Class I Groundwater)
TABLE D	pH Specific Soil Remediation Objectives for Inorganics and Ionizing Organics for the Soil Component of the Groundwater Ingestion Route (Class II Groundwater)
TABLE E	Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route
TABLE F	Values Used to Calculate the Tier 1 Soil Remediation Objectives for the Soil Component of the Groundwater Ingestion Route

APPENDIX C Tier 2 Tables and Illustrations

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ILLUSTRATION B	Tier 2 Evaluation for Groundwater
ILLUSTRATION C	US Department of Agriculture Soil Texture Classification
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TABLE C	RBCA Equations
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TABLE E	Default Physical and Chemical Parameters
TABLE F	Methods for Determining Physical Soil Parameters
TABLE G	Error Function (erf)
TABLE H	Q/C Values By Source Area
TABLE I	K_{oc} Values for Ionizing Organics as a Function of pH (cm^3/g or L/kg)
TABLE J	Values to be Substituted for k_s when Evaluating Inorganics as a Function of pH ($\text{cm}^3\text{water}/\text{g}_{\text{soil}}$)
TABLE K	Parameter Estimates for Calculating Water-Filled Soil Porosity (θ_w)

AUTHORITY: Implementing Sections 22.4, 22.12, Title XVI, Title XVII, and Public Act 91-0909, and authorized by Sections 27, 57.14, and 58.5 of the Environmental Protection Act [415 ILCS 5/22.4, 22.12, 27, 57.14 and 58.5 and Title XVI and Title XVII].

SOURCE: Adopted in R97-12(A) at 21 Ill. Reg. 7942, effective July 1, 1997; amended in R97-12(B) at 21 Ill. Reg. 16391, effective December 8, 1997; amended in R97-12(C) at 22 Ill. Reg. 10847, effective June 8, 1998; amended in R00-19(A) at 25 Ill. Reg. _____, effective _____.

NOTE: Capitalization indicates statutory language.

SUBPART B: GENERAL

Section 742.200 Definitions

Except as stated in this Section, or unless a different meaning of a word or term is clear from the context, the definition of words or terms in this Part shall be the same as that applied to the same words or terms in the Act.

"Act" means the Illinois Environmental Protection Act [415 ILCS 5] .

"ADL" means Acceptable Detection Limit, which is the detectable concentration of a substance ~~which~~ that is equal to the lowest appropriate Practical Quantitation Limit (PQL) as defined in this Section.

"Agency" means the Illinois Environmental Protection Agency.

"Agricultural Property" means any real property for which its present or post-remediation use is for growing agricultural crops for food or feed either as harvested crops, cover crops or as pasture. This definition includes, but is not limited to, properties used for confinement or grazing of livestock or poultry and for silviculture operations. Excluded from this definition are farm residences, farm outbuildings and agrichemical facilities.

"Area Background" means ~~CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE CONSISTENTLY PRESENT IN THE ENVIRONMENT IN THE VICINITY OF A SITE THAT ARE THE RESULT OF NATURAL CONDITIONS OR HUMAN ACTIVITIES, AND NOT THE RESULT SOLELY OF RELEASES AT THE SITE~~ concentrations of regulated substances that are consistently present in the environment in the vicinity of a site that are the result of natural conditions or human activities, and not the result solely of releases at the site. (Section 58.2 of the Act) [415 ILCS 5/58.2]

"ASTM" means the American Society for Testing and Materials.

"Board" means the Illinois Pollution Control Board.

"Cancer Risk" means a unitless probability of an individual developing cancer from a defined exposure rate and frequency.

"Cap" means a barrier designed to prevent the infiltration of precipitation or other surface water, or impede the ingestion or inhalation of contaminants.

"Carcinogen" means ~~A CONTAMINANT THAT IS CLASSIFIED AS A CATEGORY A1 OR A2 CARCINOGEN BY THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS; A CATEGORY 1 OR 2A/2B CARCINOGEN BY THE WORLD HEALTH ORGANIZATION'S INTERNATIONAL AGENCY FOR RESEARCH ON CANCER; A "HUMAN CARCINOGEN" OR "ANTICIPATED HUMAN CARCINOGEN" BY THE UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICE NATIONAL TOXICOLOGICAL PROGRAM; OR A CATEGORY A OR B1/B2 CARCINOGEN BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY IN THE INTEGRATED RISK INFORMATION SYSTEM OR A FINAL RULE ISSUED IN A FEDERAL REGISTER NOTICE BY THE USEPA~~ a contaminant that is classified as a category A1 or A2 carcinogen by the American Conference of Governmental Industrial Hygienists; a category 1 or 2A/2B carcinogen by the World Health

Organization's International Agency for Research on Cancer; a "human carcinogen" or "anticipated human carcinogen" by the United States Department of Health and Human Service National Toxicological Program; or a category A or B1/B2 carcinogen by the United States Environmental Protection Agency in the integrated risk information system or a final rule issued in a Federal Register notice by the USEPA. (Section 58.2 of the Act) [415 ILCS 5/58.2]

"Class I Groundwater" means groundwater that meets the Class I: Potable Resource Groundwater criteria set forth in 35 Ill. Adm. Code 620.

"Class II Groundwater" means groundwater that meets the Class II: General Resource Groundwater criteria set forth in 35 Ill. Adm. Code 620.

"Conservation Property" means any real property for which present or post-remediation use is primarily for wildlife habitat.

"Construction Worker" means a person engaged on a temporary basis to perform work involving invasive construction activities including, but not limited to, personnel performing demolition, earth-moving, building, and routine and emergency utility installation or repair activities.

"Contaminant of Concern" or "Regulated Substance of Concern" means ~~ANY CONTAMINANT THAT IS EXPECTED TO BE PRESENT AT THE SITE BASED UPON PAST AND CURRENT LAND USES AND ASSOCIATED RELEASES THAT ARE KNOWN TO THE~~ any contaminant that is expected to be present at the site based upon past and current land uses and associated releases that are known to the person conducting a remediation ~~BASED UPON REASONABLE INQUIRY~~ based upon reasonable inquiry. (Section 58.2 of the Act) [415 ILCS 5/58.2]

"Engineered Barrier" means a barrier designed or verified using engineering practices that limits exposure to or controls migration of the contaminants of concern.

"Environmental Land Use Control" means an instrument that meets the requirements of this Part and is placed in the chain of title to real property that limits or places requirements upon the use of the property for the purpose of protecting human health or the environment, is binding upon the property owner, heirs, successors, assigns, and lessees, and runs in perpetuity or until the Agency approves, in writing, removal of the limitation or requirement from the chain of title.

"Exposure Route" means the transport mechanism by which a contaminant of concern reaches a receptor.

"Federally Owned Property" means real property owned in fee by the United States of America on which institutional controls are sought to be placed in accordance with this Subpart.

“Federal Landholding Entity” means that federal department, agency, or instrumentality with the authority to occupy and control the day-to-day use, operation and management of Federally Owned Property.

"Free Product" means a contaminant that is present as a non-aqueous phase liquid for chemicals whose melting point is less than 30° C (e.g., liquid not dissolved in water).

“GIS” means Geographic Information System.

“GPS” means Global Positioning System.

~~“GROUNDWATER” MEANS UNDERGROUND WATER WHICH OCCURS WITHIN THE SATURATED ZONE AND GEOLOGIC MATERIALS WHERE THE FLUID PRESSURE IN THE PORE SPACE IS EQUAL TO OR GREATER THAN ATMOSPHERIC PRESSURE.~~ “Groundwater” means underground water which occurs within the saturated zone and geologic materials where the fluid pressure in the pore space is equal to or greater than atmospheric pressure.
(Section 3.64 of the Act)[415 ILCS 5/3.64]

"Groundwater Quality Standards" means the standards for groundwater as set forth in 35 Ill. Adm. Code 620.

"Hazard Quotient" means the ratio of a single substance exposure level during a specified time period to a reference dose for that substance derived from a similar exposure period.

~~"Highway" MEANS ANY PUBLIC WAY FOR VEHICULAR TRAVEL WHICH HAS BEEN LAID OUT IN PURSUANCE OF ANY LAW OF THIS STATE, OR OF THE TERRITORY OF ILLINOIS, OR WHICH HAS BEEN ESTABLISHED BY DEDICATION, OR USED BY THE PUBLIC AS A HIGHWAY FOR 15 YEARS, OR WHICH HAS BEEN OR MAY BE LAID OUT AND CONNECT A SUBDIVISION OR PLATTED LAND WITH A PUBLIC HIGHWAY AND WHICH HAS BEEN DEDICATED FOR THE USE OF THE OWNERS OF THE LAND INCLUDED IN THE SUBDIVISION OR PLATTED LAND WHERE THERE HAS BEEN AN ACCEPTANCE AND USE UNDER SUCH DEDICATION BY SUCH OWNERS, AND WHICH HAS NOT BEEN VACATED IN PURSUANCE OF LAW. THE TERM “HIGHWAY” INCLUDES RIGHTS OF WAY, BRIDGES, DRAINAGE STRUCTURES, SIGNS, GUARD RAILS, PROTECTIVE STRUCTURES AND ALL OTHER STRUCTURES AND APPURTENANCES NECESSARY OR CONVENIENT FOR VEHICULAR TRAFFIC. A HIGHWAY IN A RURAL AREA MAY BE CALLED A “ROAD”, WHILE A HIGHWAY IN A MUNICIPAL AREA MAY BE CALLED A “STREET”.~~ means any public way for vehicular travel which has been laid out in pursuance of any law of this State, or of the Territory of Illinois, or which has been established by dedication, or used by the public as a highway for 15 years, or which has been or may be laid out and connect a subdivision or

platted land with a public highway and which has been dedicated for the use of the owners of the land included in the subdivision or platted land where there has been an acceptance and use under such dedication by such owners, and which has not been vacated in pursuance of law. The term "highway" includes rights of way, bridges, drainage structures, signs, guard rails, protective structures and all other structures and appurtenances necessary or convenient for vehicular traffic. A highway in a rural area may be called a "road", while a highway in a municipal area may be called a "street". (Illinois Highway Code) [605 ILCS 5/2-202])

"Highway Authority" means ~~THE DEPARTMENT~~ *the Department* of Transportation ~~WITH RESPECT TO A STATE HIGHWAY; THE COUNTY BOARD WITH RESPECT TO A COUNTY HIGHWAY OR A COUNTY UNIT DISTRICT ROAD IF A DISCRETIONARY FUNCTION IS INVOLVED AND THE COUNTY SUPERINTENDENT OF HIGHWAYS IF A MINISTERIAL FUNCTION IS INVOLVED; THE HIGHWAY COMMISSIONER WITH RESPECT TO A TOWNSHIP OR DISTRICT ROAD NOT IN A COUNTY UNIT ROAD DISTRICT; OR THE CORPORATE AUTHORITIES OF A MUNICIPALITY WITH RESPECT TO A MUNICIPAL STREET.~~ with respect to a State highway; the County Board with respect to a county highway or a county unit district road if a discretionary function is involved and the County Superintendent of Highways if a ministerial function is involved; the Highway Commissioner with respect to a township or district road not in a county unit road district; or the corporate authorities of a municipality with respect to a municipal street. (Illinois Highway Code) [605 ILCS 5/2-213])

"Human Exposure Pathway" means a physical condition which may allow for a risk to human health based on the presence of all of the following: contaminants of concern; an exposure route; and a receptor activity at the point of exposure that could result in contaminant of concern intake.

"Industrial/Commercial Property" means any real property that does not meet the definition of residential property, conservation property or agricultural property.

"Infiltration" means the amount of water entering into the ground as a result of precipitation.

"Institutional Control" means a legal mechanism for imposing a restriction on land use, as described in Subpart J.

"Land Use Control Memorandums of Agreement" mean agreements entered into between one or more agencies of the United States and the Illinois Environmental Protection Agency that limit or place requirements upon the use of Federally Owned Property for the purpose of protecting human health or the environment.

"Man-Made Pathways" means ~~CONSTRUCTED~~ *constructed* physical conditions ~~THAT MAY ALLOW FOR THE TRANSPORT OF REGULATED~~

~~SUBSTANCES INCLUDING, BUT NOT LIMITED TO, SEWERS, UTILITY LINES, UTILITY VAULTS, BUILDING FOUNDATIONS, BASEMENTS, CRAWL SPACES, DRAINAGE DITCHES, OR PREVIOUSLY EXCAVATED AND FILLED AREAS.~~*that may allow for the transport of regulated substances including, but not limited to, sewers, utility lines, utility vaults, building foundations, basements, crawl spaces, drainage ditches, or previously excavated and filled areas.* (Section 58.2 of the Act)[415 ILCS 5/58.2]

"Natural Pathways" means ~~NATURAL~~ *natural* physical conditions that may allow ~~FOR THE TRANSPORT OF REGULATED SUBSTANCES INCLUDING, BUT NOT LIMITED TO, SOIL, GROUNDWATER, SAND SEAMS AND LENSES, AND GRAVEL SEAMS AND LENSES.~~ *for the transport of regulated substances including, but not limited to, soil, groundwater, sand seams and lenses, and gravel seams and lenses.* (Section 58.2 of the Act) [415 ILCS 5/58.2]

"Negative Easement" means a right of the owner of the dominant or benefitted estate or property to restrict the property rights of the owner of the servient or burdened estate or property.

"Person" means an ~~INDIVIDUAL, TRUST, FIRM, JOINT STOCK COMPANY, JOINT VENTURE, CONSORTIUM, COMMERCIAL ENTITY, CORPORATION (INCLUDING A GOVERNMENT CORPORATION), PARTNERSHIP, ASSOCIATION, STATE, MUNICIPALITY, COMMISSION, POLITICAL SUBDIVISION OF A STATE, OR ANY INTERSTATE BODY INCLUDING THE UNITED STATES GOVERNMENT AND EACH DEPARTMENT, AGENCY, AND INSTRUMENTALITY OF THE UNITED STATES~~*individual, trust, firm, joint stock company, joint venture, consortium, commercial entity, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, or any interstate body including the United States government and each department, agency, and instrumentality of the United States.* (Section 58.2 of the Act) [415 ILCS 5/58.2]

"Point of Human Exposure" means the point(s) at which human exposure to a contaminant of concern may reasonably be expected to occur. The point of human exposure is at the source, unless an institutional control limiting human exposure for the applicable exposure route has been or will be in place, in which case the point of human exposure will be the boundary of the institutional control. Point of human exposure may be at a different location than the point of compliance.

"PQL" means practical quantitation limit or estimated quantitation limit, which is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions in accordance with "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods", EPA Publication No. SW-846,

incorporated by reference in Section 742.210. When applied to filtered water samples, PQL includes the method detection limit or estimated detection limit in accordance with the applicable method revision in: "Methods for the Determination of Organic Compounds in Drinking Water", Supplement II", EPA Publication No. EPA/600/4-88/039; "Methods for the Determination of Organic Compounds in Drinking Water, Supplement III", EPA Publication No. EPA/600/R-95/131, all of which are incorporated by reference in Section 742.210.

"RBCA" means Risk Based Corrective Action as defined in ASTM E-1739-95, as incorporated by reference in Section 742.210.

"RCRA" means the Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6921).

"Reference Concentration (RfC)" means an estimate of a daily exposure, in units of milligrams of chemical per cubic meter of air (mg/m³), to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a portion of a lifetime (up to approximately seven years, subchronic) or for a lifetime (chronic).

"Reference Dose (RfD)" means an estimate of a daily exposure, in units of milligrams of chemical per kilogram of body weight per day (mg/kg/d), to the human population (including sensitive subgroups) that is likely to be without appreciable risk of deleterious effects during a portion of a lifetime (up to approximately seven years, subchronic) or for a lifetime (chronic).

~~"Regulated Substance" means ANY HAZARDOUS SUBSTANCE AS DEFINED UNDER SECTION 101(14) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (P.L. 96-510) AND PETROLEUM PRODUCTS INCLUDING CRUDE OIL OR ANY FRACTION THEREOF, NATURAL GAS, NATURAL GAS LIQUIDS, LIQUIFIED NATURAL GAS, OR SYNTHETIC GAS USABLE FOR FUEL (OR MIXTURES OF NATURAL GAS AND SUCH SYNTHETIC GAS).~~ *any hazardous substance as defined under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (P.L. 96-510) and petroleum products including crude oil or any fraction thereof, natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).* (Section 58.2 of the Act) [415 ILCS 5/58.2]

~~"Residential Property" MEANS ANY REAL PROPERTY THAT IS USED FOR HABITATION BY INDIVIDUALS,~~ *OR means any real property that is used for habitation by individuals,* or where children have the opportunity for exposure to contaminants through soil ingestion or inhalation at educational facilities, health care facilities, child care facilities or outdoor recreational areas. [415 ILCS 5/58.2]

"~~Restrictive Covenant or Deed Restriction~~" means a provision placed in a deed limiting the use of the property and prohibiting certain uses. (Black's Law Dictionary, 5th Edition)

"Right of Way" means ~~THE LAND, OR INTEREST THEREIN, ACQUIRED FOR OR DEVOTED TO A HIGHWAY.~~ *the land, or interest therein, acquired for or devoted to a highway.* (Illinois Highway Code) [605 ILCS 5/2-217])

"Similar-Acting Chemicals" are chemical substances that have toxic or harmful effect on the same specific organ or organ system (see Appendix A. Tables E and F for a list of similar-acting chemicals with noncarcinogenic and carcinogenic effects).

"Site" means ~~ANY SINGLE LOCATION, PLACE, TRACT OF LAND OR PARCEL OF PROPERTY, OR PORTION THEREOF, INCLUDING CONTIGUOUS PROPERTY SEPARATED BY A PUBLIC RIGHT OF WAY.~~ *any single location, place, tract of land or parcel of property, or portion thereof, including contiguous property separated by a public right-of-way.* (~~Section 58.2 of the Act~~) [415 ILCS 5/58.2]

"Slurry Wall" means a man-made barrier made of geologic material which is constructed to prevent or impede the movement of contamination into a certain area.

"Soil Saturation Limit (C[sat])" means the contaminant concentration at which soil pore air and pore water are saturated with the chemical and the adsorptive limits of the soil particles have been reached.

"Solubility" means a chemical specific maximum amount of solute that can dissolve in a specific amount of solvent (groundwater) at a specific temperature.

"SPLP" means Synthetic Precipitation Leaching Procedure (Method 1312) as published in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA Publication No. SW-846, as incorporated by reference in Section 742.210.

"SSL" means Soil Screening Levels as defined in USEPA's Soil Screening Guidance: User's Guide and Technical Background Document, as incorporated by reference in Section 742.210.

"Stratigraphic Unit" means a site-specific geologic unit of native deposited material and/or bedrock of varying thickness (e.g., sand, gravel, silt, clay, bedrock, etc.). A change in stratigraphic unit is recognized by a clearly distinct contrast in geologic material or a change in physical features within a zone of gradation. For the purposes of this Part, a change in stratigraphic unit is identified by one or a combination of differences in physical features such as texture, cementation, fabric, composition, density, and/or permeability of the native material and/or bedrock.

"TCLP" means Toxicity Characteristic Leaching Procedure (Method 1311) as published in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA Publication No. SW-846, as incorporated by reference in Section 742.210.

"Total Petroleum Hydrocarbon (TPH)" means the additive total of all petroleum hydrocarbons found in an analytical sample.

"Volatile Organic Compounds (VOCs)" means organic chemical analytes identified as volatiles as published in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA Publication No. SW-846 (incorporated by reference in Section 742.210), method numbers 8010, 8011, 8015, 8020, 8021, 8030, 8031, 8240, 8260, 8315, and 8316. For analytes not listed in any category in those methods, those analytes which have a boiling point less than 200°C and a vapor pressure greater than 0.1 Torr (mm Hg) at 20° C.

(Source: Amended in R00-19(A) at 25 Ill. Reg. _____, effective _____)

SUBPART J: INSTITUTIONAL CONTROLS

Section 742.1000 Institutional Controls

- a) Institutional controls in accordance with this Subpart must be placed on the property when remediation objectives are based on any of the following assumptions:
 - 1) Industrial/Commercial property use;
 - 2) Target cancer risk greater than 1 in 1,000,000;
 - 3) Target hazard quotient greater than 1;
 - 4) Engineered barrier(s);
 - 5) The point of human exposure is located at a place other than at the source;
 - 6) Exclusion of exposure routes ~~under Subpart C~~; or
 - 7) Any combination of the above.

- b) The Agency shall not approve any remediation objective under this Part that is based on the use of institutional controls unless the person has proposed institutional controls meeting the requirements of this Subpart and the requirements of the specific program under which the institutional control is proposed. A proposal for approval of institutional controls shall provide identification of the selected institutional controls from among the types recognized in this Subpart.

- c) The following instruments may be institutional controls subject to the requirements of this Subpart J and the requirements of the specific program under which the institutional control is proposed:
- 1) No Further Remediation Letters;
 - 2) ~~Restrictive covenants and deed restrictions~~ Environmental Land Use Controls;
 - 3) Land Use Control Memorandums of Agreement;
 - 3) ~~Negative easements~~;
 - 4) Ordinances adopted and administered by a unit of local government; and
 - 5) Agreements between a property owner and a highway authority with respect to any contamination remaining under highways.
- d) ~~An institutional control is transferred~~ must transfer No Further Remediation Letters and Environmental Land Use Controls that meet the requirements of this Subpart and the recording requirements of the program under which remediation is being performed are transferred with the property.

(Source: Amended in R00-19(A) at 25 Ill. Reg. _____, effective _____)

Section 742.1010 ~~Restrictive Covenants, Deed Restrictions and Negative Easements~~
Environmental Land Use Controls

- a) ~~A restrictive covenant, deed restriction or negative easement may be used as an institutional control under this Part if the requirements of this Section are met and the Agency has determined that no further remediation is required as to the property(ies) to which the institutional control is to apply.~~
- b) ~~A request for approval of a restrictive covenant, deed restriction or negative easement as an acceptable institutional control shall provide the following:~~
- 1) ~~A copy of the restrictive covenant, deed restriction, or negative easement in the form it will be recorded with the Office of the Recorder or Registrar of Titles in the county where the site is located;~~
 - 2) ~~A scaled map showing the horizontal extent of contamination above the applicable remediation objectives;~~
 - 3) ~~Information showing the concentration of contaminants of concern in which the applicable remediation objectives are exceeded;~~
 - 4) ~~A scaled map showing the legal boundaries of all properties under which contamination is located that exceeds the applicable remediation~~

objectives and which are subject to the restrictive covenant, deed restriction, or negative;

- 5) ~~Information identifying the current owner(s) of each property identified in subsection (b)(4) of this Section; and~~
 - 6) ~~Authorization by the current owner(s), or person authorized by law to act on behalf of the owner, of each property identified in subsection (b)(5) of this Section to record the restrictive covenant or deed restriction.~~
- e) ~~Any restrictive covenant, deed restriction, or negative easement approved by the Agency pursuant to this Section shall be recorded in the Office of the Recorder or Registrar of Titles of the county in which the site is located together with the instrument memorializing the Agency's no further remediation determination pursuant to the specific program with 45 days after receipt of the Agency's no further remediation determination.~~
- d) ~~An institutional control approved under this Section shall not become effective until officially recorded in accordance with subsection (c) of this Section. The person receiving the approval shall obtain and submit to the Agency within 30 days after recording a copy of the institutional control demonstrating that it has been recorded.~~
- e) ~~At no time shall any site for which land use has been restricted under an institutional control approved under this Section be used in a manner inconsistent with such land use limitation unless further investigation or remedial action has been conducted that documents the attainment of remediation objectives appropriate for such land use and a new institutional control, if necessary, is approved and recorded in accordance with subsection (c) of this Section.~~
- f) ~~Violation of the terms of an institutional control approved under this Section shall be grounds for voidance of the institutional control and the instrument memorializing the Agency's no further remediation determination.~~
- a) An Environmental Land Use Control ("ELUC") may be used as an institutional control under this Part if the requirements of this Section are met. An ELUC may be used to impose land use limitations or requirements related to environmental contamination. is an institutional control that may be used under this Part to impose land use limitations or requirements related to environmental contamination. ELUCs are only effective when approved by the Agency in accordance with this Part. Activities or uses that may be limited or required include, but are not limited to, prohibition of use of groundwater for potable purposes, restriction to industrial/commercial uses, operation or maintenance of engineered barriers, or worker safety plans. ELUCs may be used in the following circumstances:

- 1) When No Further Remediation Letters are not available, including but not limited to when contamination has migrated off-site or outside the remediation site; or
- 2) When No Further Remediation Letters are not issued under the program for which a person is undergoing remediation.

b) Recording requirements:

- 1) An ELUC approved by the Agency pursuant to this Section must be recorded in the Office of the Recorder or Registrar of Titles for the county in which the property that is the subject of the ELUC is located. A copy of the ELUC demonstrating that it has been recorded must be submitted to the Agency before the Agency will issue a no further remediation determination.
- 2) An ELUC approved under this Section will not become effective until officially recorded in the chain of title for the property that is the subject of the ELUC in accordance with subsection (b)(1) of this Section.
- 3) A copy of the ELUC as recorded must be attached to the instrument memorializing the Agency's no further remediation determination. Reference to the recorded ELUC must be made in the instrument memorializing the Agency's no further remediation determination. Recording of the no further remediation determination and confirmation of recording must be in accordance with the requirements of the program under which the determination was issued.
- 4) The requirements of this Section do not apply to Federally Owned Property for which the Federal Landholding Entity does not have the authority under federal law to record land use limitations on the chain of title.
- 5) The requirements of this Section apply only to those sites for which a request for a no further remediation determination has not yet been made to the Agency at the time of adoption of these rules by January 6, 2001.

c) Duration:

- 1) Except as provided in this subsection (c), an ELUC shall remain in effect in perpetuity.
- 2) *At no time shall any site for which an ELUC has been imposed as a result of remediation activities under this Part be used in a manner inconsistent with the land use limitation unless further investigation or remedial action has been conducted that documents the attainment of objectives appropriate for the new land use is achieved and a new no further remediation determination has been obtained and recorded in accordance*

with the program under which the ELUC was first imposed or the Site Remediation Program (35 Ill. Adm. Code 740). [415 ILCS 58.8(c)]. In addition, the appropriate release or modification of the ELUC must be prepared by the Agency and filed on the chain of title for the property that is the subject of the ELUC.

A) For a Leaking Underground Storage Tank (LUST) site under 35 Ill. Adm. Code 731 or 732 or a Site Remediation Program site under 35 Ill. Adm. Code 740, an ELUC may be ~~superseded~~ released or modified only if the NFR Letter is modified under the LUST or Site Remediation Program to reflect the change;

B) For a RCRA site under 35 Ill. Adm. Code 721 – 730, an ELUC may be ~~superseded~~ released or modified only by an amended certification of closure or a permit modification.

3) In addition to any other remedies that may be available, a failure to comply with the limitation(s) or requirement(s) of an ELUC may result in avoidance of an Agency no further remediation determination in accordance with the program under which the determination was made. The failure to comply with the limitation(s) or requirement(s) of an ELUC may also be grounds for an enforcement action pursuant to Title VIII of the Act.

d) An ELUC must contain the following elements:

1) Name of property owner(s) and declaration of property ownership;

2) Identification of the property to which the ELUC applies by common address, legal description, and Real Estate Tax Index/Parcel Index Number;

3) A reference to the Bureau of Land LPC number(s) or 10-digit identification number(s) under which the remediation was conducted;

4) A statement of the reason for the land use limitation or requirement ~~relative to protection from soil contamination, groundwater contamination, or both~~ relative to protecting human health and the surrounding environment from soil, groundwater, and/or other environmental contamination;

5) ~~A statement of the type of each land use limitation or requirement imposed by the ELUC and the language incorporating such land use limitation(s) or requirement(s)~~ The language instituting such land use limitation(s) or requirement(s);

6) A statement that the limitation(s) or requirement(s) apply to the current owner(s), occupants, and all heirs, successors, assigns, and lessees;

- 7) A statement that the limitation(s) or requirement(s) apply in perpetuity or until issuance by the Agency of a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s):
- A) The Agency issues a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); and
- B) A release or modification of the land use limitation is filed on the chain of title for the property that is the subject of the ELUC;
- 8) Scaled site maps showing:
- A) The legal boundary of the property to which the ELUC applies;
- B) The horizontal and vertical extent of contaminants of concern above applicable Tier 1 residential remediation objectives for soil and groundwater to which the ELUC applies;
- C) Any physical features to which an ELUC applies (e.g., engineered barriers, monitoring wells, caps); and
- D) The nature, location of the source, and direction of movement of the contaminants of concern;
- 9) A statement that any information regarding the remediation performed on the property for which the ELUC is necessary may be obtained from the Agency through a request under the Freedom of Information Act [5 ILCS 140] and rules promulgated thereunder; and
- 10) The dated, notarized signature(s) of the property owner(s) or authorized agent.

(Source: Amended in R00-19(A) at 25 Ill. Reg. _____, effective _____)

Section 742.1012 Federally Owned Property: Land Use Control Memorandums of Agreement

- a) A Land Use Control Memorandum of Agreement (“LUC MOA”) between one or more agencies of the federal government and the Illinois Environmental Protection Agency is an institutional control that may be used under this Part to impose land use limitations or restrictions related to environmental contamination on Federally Owned Property. A LUC MOA may be used only for Federally Owned Property. Each LUC MOA, at a minimum, must require that the Federal Landholding Entities responsible for the Federally Owned Property do the following:

- 1) Provide adequate identification of the location on the Federally Owned Property of each site with land use limitations or requirements. Such identification shall be by means of common address, notations in any available facility master land use plan, site specific GIS or GPS coordinates, plat maps, or any other means which identifies the site in question with particularity;
 - 2) Implement periodic site inspection procedures to ensure adequate oversight by the Federal Landholding Entities of such land use limitation or requirement;
 - 3) Implement procedures for the Federal Landholding Entities to periodically advise the Agency of continued compliance with the maintenance of the land use control and site inspection requirements included in the LUC MOA;
 - 4) Implement procedures for the Federal Landholding Entities to notify the Agency of any planned or emergency changes in land use that may adversely impact any site with land use limitations or requirements; and
 - 5) Notify the Agency at least 60 days in advance of a conveyance by deed or fee simple title, by the Federal Landholding Entities, of a site(s) with land use limitations or requirements, to any entity that will not remain or become a Federal Landholding Entity, and provide the Agency with information about how the Federal Landholding Entities will ensure that the requirements of Section 742.1010(b)(1) through (b)(3) are to be satisfied upon conveyance of that site(s).
- b) Any LUC MOA entered into pursuant to this Section remains effective only so long as title to the affected property is retained by the United States.

(Source: Amended in R00-19(A) at 25 Ill. Reg. _____, effective _____)

Section 742.APPENDIX A: General

Section 742.TABLE G: Concentrations of Inorganic Chemicals in Background Soils

Chemical Name	Counties Within Metropolitan Statistical Areas ^a (mg/kg)	Counties Outside Metropolitan Statistical Areas (mg/kg)
Aluminum	9,500	9,200
Antimony	4.0	3.3

Arsenic	<u>7,213.0</u>	<u>5,211.3</u>
Barium	110`	122
Beryllium	0.59	0.56
Cadmium	0.6	0.50
Calcium	9,300	5,525
Chromium	16.2	13.0
Cobalt	8.9	8.9
Copper	19.6	12.0
Cyanide	0.51	0.50
Iron	15,900	15,000
Lead	36.0	20.9
Magnesium	4,820	2,700
Manganese	636	630
Mercury	0.06	0.05
Nickel	18.0	13.0
Potassium	1,268	1,100
Selenium	0.48	0.37
Silver	0.55	0.50
Sodium	130	130.0
Sulfate	85.5	110
Sulfide	3.1	2.9
Thallium	0.32	0.42
Vanadium	25.2	25.0
Zinc	95.0	60.2

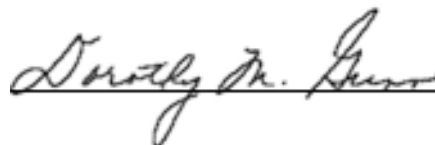
*BOARD NOTE: Counties within Metropolitan Statistical Areas: Boone, Champaign, Clinton, Cook, DuPage, Grundy, Henry, Jersey, Kane, Kankakee, Kendall, Lake, Macon, Madison, McHenry, McLean, Menard, Monroe, Peoria, Rock Island, Sangamon, St. Clair, Tazewell, Will, Winnebago and Woodford.

Chemical Name	Counties Within Metropolitan Statistical Areas ^a (mg/kg)	Counties Outside Metropolitan Statistical Areas (mg/kg)
Nickel	18.0	13.0
Potassium	1,268	1,100
Selenium	0.48	0.37
Silver	0.55	0.50
Sodium	130	130.0
Sulfate	85.5	110
Sulfide	3.1	2.9
Thallium	0.32	0.42
Vanadium	25.2	25.0
Zinc	95.0	60.2

(Source: Amended at 25 Ill. Reg. ____, effective _____)

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above opinion and order was adopted on the 21st day of December 2000 by a vote of 7-0.



Dorothy M. Gunn, Clerk
Illinois Pollution Control Board