



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276 • (217) 782-2829
James R. Thompson Center, 100 West Randolph, Suite 11-300, Chicago, IL 60601 • (312) 814-6026

PAT QUINN, GOVERNOR

DOUGLAS P. SCOTT, DIRECTOR

July 19, 2011

Dion Novak
United States Environmental Protection Agency, Region 5
Superfund Division, Mail Code SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590



Re: Tetra Tech Technical Memorandum (July 8, 2011), and Draft Annotated FS Outline (July 8, 2011)

1630455274 – Saint Clair County
North Alcoa/East Saint Louis
Superfund/Technical Reports

Dion,

Illinois Environmental Protection Agency (Illinois EPA) is providing these comments to the United States Environmental Protection Agency on two submittals dated July 8, 2011 and received by Illinois EPA on July 12, 2011. These are: 1. Tetra Tech Environmental Management Incorporated (TTEMI) Technical Memorandum for two regulatory issues from the June 22, 2011 meeting with USEPA in Chicago and 2. A draft Annotated Feasibility Study (FS) Outline for the Revised Feasibility Study.

This letter supplements the Illinois EPA's July 18, 2011 response to action items from the July 13, 2011 conference call. If there is a conflict between the July 18, 2011 response and this letter, this letter supersedes the July 18, 2011 comments.

TTEMI Technical Memorandum

This memorandum addresses two regulatory issues:

1. Toxicity Characteristic Leaching Procedure (TCLP) and the applicability of this leaching procedure to site-specific conditions, and
2. Illinois Environmental Protection Agency (Illinois EPA) requirements for engineered barriers at locations where TACO Tier 1 soil criteria are exceeded.

Tetra Tech's technical memorandum discussing TCLP and Tiered Approach to Corrective Action Objectives (TACO) Tier 1 soil criteria exceedances apparently was generated as a result of the June 22, 2011 meeting in Chicago at the USEPA Region 5 offices. At this meeting, two approaches to site remediation were discussed: 1. Alternative NPL and 2. The Illinois Site Remediation Program (SRP, formerly known as the State Voluntary Cleanup Program (VCP)),

Rockford • 4302 N. Main St., Rockford, IL 61103 • (815) 987-7760

Elgin • 595 S. State, Elgin, IL 60123 • (847) 608-3131

Bureau of Land – Peoria • 7620 N. University St., Peoria, IL 61614 • (309) 693-5462

Collinsville • 2009 Mall Street, Collinsville, IL 62234 • (618) 346-5120

Des Plaines • 9511 W. Harrison St., Des Plaines, IL 60016 • (847) 294-4000

Peoria • 5415 N. University St., Peoria, IL 61614 • (309) 693-5463

Champaign • 2125 S. First St., Champaign, IL 61820 • (217) 278-5800

Marion • 2309 W. Main St., Suite 116, Marion, IL 62959 • (618) 993-7200

July 19, 2011

Letter to USEPA

Regarding Illinois EPA Comments on the Remediation of the ALCOA – East Saint Louis Site
Page 2 of 7

which uses the TACO regulations. In Illinois, the TACO regulations found at 35 Illinois Administrative Code (IAC) 742 are a “to be considered” (TBC) regulation. They are not Applicable or Relevant and Appropriate (ARAR) under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA or Superfund). The TTEMI Technical Memorandum apparently was generated to address the possibility of moving the site into the Illinois SRP. Marjorie Buchholtz’ July 11, 2011 electronic mail included 6 action items that needed to be addressed. Action Items 4-6 dealt with the Illinois SRP and TACO regulations. Since that time, a decision has been made to keep the project within the CERCLA program, so any issues regarding the Illinois Site Remediation Program (SRP aka VCP) or TACO should be considered overcome by events.

TTEMI Technical Memorandum Summary

Paragraph 1

The Illinois EPA agrees that the red and brown mud from bauxite refining and the fluorogypsum waste materials meet the Bevill exemption (40 Code of Federal Regulations (CFR) 261.4(b)(7) and identical in substance language at 35 IAC721.104(b)(7). Illinois EPA agrees with the TTEMI statement regarding the applicability of other federal and state regulations for closure of the site in spite of this exemption and the potential termination of the groundwater pathway.

Paragraph 2

Again, this paragraph references Illinois EPA regulations for TACO pursuant to 35 IAC 742.1105(c)(2)(iii) regarding the requirement for 3 feet soil cover. This would apply only if the project were in the Illinois SRP. TTEMI Tetra Tech is relying heavily on the 35 IAC 742 regulations, which are not ARAR for CERCLA activities in Illinois. A detailed analysis conducted by the Illinois EPA Division of Legal Counsel found that 35 IAC 742 regulations to only be a TBC regulation under CERCLA.

Illinois EPA regards 35 IAC 807.305(c) as the ARAR for the soil cap. The capping ARAR, requires “...a compacted layer of not less than two feet of suitable material...”. Illinois EPA believes it is essential that this layer be compacted. Illinois EPA believes construction of the solar farm will require some compaction of the soil cover. Compaction of the soil is required by the regulation and it will be necessary in order to provide an adequate foundation for the gravel layer and for the solar panels. Illinois EPA would also like to know what soil material is proposed for the 2-foot cap layer, as the regulation requires the material to be suitable. From the Illinois EPA perspective, this should be an uncontaminated, cohesive (emphasis added) soil material that can be compacted so as to limit surface water infiltration over the entire disposal area.

July 19, 2011

Letter to USEPA

Regarding Illinois EPA Comments on the Remediation of the ALCOA – East Saint Louis Site
Page 3 of 7

The TTEMI Technical Memorandum second paragraph also mentions the potential risk due to radium and other radionuclide issues. The construction health and safety plan must address radionuclides and their risk to construction workers. Perimeter air monitoring should be conducted to ensure nearby residents are adequately protected. The site health and safety plan must also address respiratory protection of site workers for the inhalation of radionuclides and heavy metals released during construction activities. Following regrading of waste materials and construction of the cap, a radon flux study, pursuant to NESHAP regulations, may be required.

TTEMI Technical Memorandum Detailed Analysis

The issue of TCLP, the Bevill exemption, TACO and ARARs was addressed above. However, in the third paragraph of this section, the first sentence of paragraph 3 that "...The TCLP test...was designed to assess the potential mobility of contaminants in the acidic conditions characteristic of municipal solid wastes...". Also, in the last sentence of paragraph 3, (top of page 3) states that "...The bauxite residue disposal areas (BRDAs) are mono-fills that do not contain municipal solid waste and thus there is no opportunity for acidic leachate to develop...".

However, in Illinois EPA's CERCLA Redevelopment Assessment Report (February 1997), Subsection 2.5 Site Geology the following information is included:

"...GeoProbe borings indicate that old fill material, much of it a black cindery material, exist today over the majority of the site,...origin unknown. The fill also consists of many materials including clay, sand, gravel, cinders, limestone fragments, cloth remnants and organic material and depths of the fill varies throughout the site...".

At this time, all parties have agreed to defer the groundwater issue to a final remedy. The interim remedy is focusing on containment by using capping pursuant to 35 IAC 807.305. Whether there is a high pH in all waste materials buried at the site and whether there is leaching of metals is an issue not relevant to the interim remedy. It should be reviewed in the context of the final remedial action that addresses groundwater.

The fourth paragraph of this section (page 3) addresses groundwater chemistry and risk or threat to groundwater. As stated previously, the issue is not whether there is a threat to groundwater but whether there is a threat to humans from drinking groundwater. Human consumption of groundwater can be excluded through use of institutional controls. The City of East Saint Louis has adopted an ordinance that prohibits the installation of potable water wells within its municipal boundaries. As such, the intended beneficial use of groundwater within these boundaries is not for potable water purposes.

July 19, 2011

Letter to USEPA

Regarding Illinois EPA Comments on the Remediation of the ALCOA – East Saint Louis Site

Page 4 of 7

Illinois EPA envisions that the future groundwater remedial action at the site would consist of pathway exclusion demonstration and an appropriate, durable, and enforceable institutional control. One mechanism to consider is the Illinois Uniform Environmental Covenant Act, which has been successfully used at CERCLA sites in Illinois. Additionally, the groundwater under the cap at the site would not be the subject of any future remedial action other than a pathway exclusion and institutional control type remedy.

It is Illinois EPA's position that during the period of the interim remedy, that the existing ground water ordinance in East Saint Louis and an additional ordinance for Alorton, Illinois would satisfy concerns regarding ground water issues. ALCOA would need to evaluate groundwater (rate, nature and extent) from the edge of the site area and go through the pathway elimination process and establish an enforceable institutional control, and that would be the extent of the groundwater remedy, as presently contemplated.

TTEMI Technical Memorandum Illinois Environmental Protection Agency requirements for engineered barriers at locations where TACO Tier 1 criteria are exceeded

As stated previously, TACO is not a site ARAR. The issue of capping the site has been discussed above and in other communications. The interim remedy involves containment (capping). Illinois EPA believes this interim remedy will be consistent with whatever final remedy is chosen. Illinois EPA understands that the geotextile in the cap design is to prevent the gravel layer from penetrating into the soil layer and it is not a geomembrane. The 35 IAC 807.305 capping regulations do not require a geotextile or geomembrane.

Draft-Annotated FS Outline

VI. Development of Remedial Action Alternatives:

Remedial Option d. RAA-2A Containment with Construction of Solar Platform and On Site Storm Water Management

The draft-Annotated FS Outline includes a total of 5, including the No Action Option. For the Presumptive Remedy involving the Solar Farm, interim remedy option 2A (page 5, has been included as "Containment with Construction of Solar Platform and On-site Storm Water Management". Illinois EPA's review comments included above for TTEMI Technical Memorandum apply here as well. Option 2A will need considerable additional details, appears to represent only an interim remedy for the North Alcoa Alternative NPL site.

July 19, 2011

Letter to USEPA

Regarding Illinois EPA Comments on the Remediation of the ALCOA – East Saint Louis Site

Page 5 of 7

i. Construction of Solar Platform

See previous comments above in the TTEMI Technical Memorandum section.

ii. Soil Cover

See previous comments above in the TTEMI Technical Memorandum section.

iii. Backfilling/Grading

See previous comments above in the TTEMI Technical Memorandum section.

If the existing large, surface pond remains it will be located within the cap? Is this correct? Is so, will the pond be constructed as so not to allow for leaching into groundwater?

iv. Surface Water Control/Conveyance

In this remedial option, there needs to be a much more detailed methodology for storm water management at the site. A significant amount of storm water will be generated at the site, and a management plan that addresses how this storm water will flow from and around the site needs to be developed. This storm water management plan needs to contemplate where the storm water will eventually discharge from the site and how it will be routed away from the site so as not to cause areal flooding.

Applicable or Appropriate and Relevant Requirements (ARARs)

The plant operated from approximately 1900 until the late 1950s and by the mid 1960s, most of the production facilities had been demolished and the land sold. The Residue Disposal Areas (RDAs) are essentially landfills.

Illinois EPA has selected the containment requirement from the earliest surviving regulation for landfills, 35 Illinois Administrative Code 807 as the Relevant and Appropriate Requirement for the landfill cap. The other Illinois EPA regulations for landfills are generally more stringent than Part 807.

The ARAR for landfill containment is 35 Illinois Administrative Code, Section 807.305(c):

July 19, 2011

Letter to USEPA

Regarding Illinois EPA Comments on the Remediation of the ALCOA – East Saint Louis Site

Page 6 of 7

“...Final Cover - a compacted layer of not less than two feet of suitable material shall be placed over the entire surface of each portion of the final lift not later than 60 days following the placement of refuse in the final lift, unless a different schedule has been authorized in the Operating Permit...”.

This regulation requires that the final cover be compacted. “Suitable material” is not defined in the regulation and is left to the discretion of the regulating agency. We interpret the suitable material to be an uncontaminated, cohesive soil that can be compacted.

Appendix A, Summary of Potential ARARS

1. Chemical Specific ARARs, General Use Water Quality Standards, 35 IAC Part 302, are listed in the Appendix as “Under Consideration” for the issue of off-site discharges. Illinois EPA suggests these regulations continue to be evaluated.
2. Chemical Specific ARARs, Risk Based Cleanup Objectives (TACO) are also listed in “Under Consideration”, but we have pointed out in the body of the letter that TACO is not an ARAR but a TBC.
3. Location Specific ARARs, General Use Water Quality Standards, 35 IAC Part 302, are included as “Under Consideration”. Storm Water Discharge requirements should also be included.
4. Location Specific ARARs, Air Quality Standards, 35 IAC Part 243, is listed as Applicable. This is for ambient air quality standards. The NESHAPs (metals, radionuclides) should also be ARAR.
5. Action Specific ARARs, State Effluent Standards, 35 IAC Part 304, is listed as Applicable. This ARAR is for discharge of water from surface water retention system. NPDES requirements should also be ARAR.
6. Action Specific ARARs, Risk Based Cleanup Objectives (TACO), 35 IAC Part 742, is listed as Relevant and Appropriate and Under Consideration. TACO will not be ARAR for this interim remedy.

Additional Illinois EPA Questions and Issues

1. What are the construction specifications for the storm water pond on the landfill?

July 19, 2011

Letter to USEPA

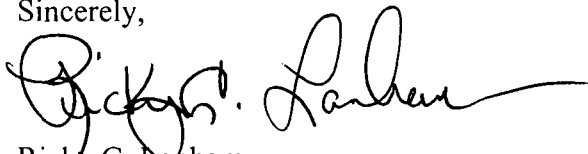
Regarding Illinois EPA Comments on the Remediation of the ALCOA – East Saint Louis Site

Page 7 of 7

2. ALCOA will need to design a storm water management plan to address a 100-year rainfall event, to ensure that storm water is directed away from the site and does not cause flooding anywhere within the surrounding community.

If you should have any additional questions, need any additional information, or wish to discuss this matter further, please contact me at 217-782-9881 or via electronic mail at rick.lanham@illinois.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Ricky G. Lanham". The signature is written in a cursive style with a long horizontal flourish extending to the right.

Ricky G. Lanham
Remedial Project Manager
Federal Site Remediation Section
Division of Remediation Management
Bureau of Land