From: Duke, Alicia [mailto:Alicia.Duke@simplot.com]
Sent: Monday, December 13, 2010 4:25 PM
To: zzMSHA-Standards - Comments to Fed Reg Group
Subject: RIN 1219-AB70

2010 DEC 13 P 6:00

Attached please find comments from the JR Simplot Company in regards to the Advanced Notice of Proposed Rulemaking; metal and non-metal standards for dams.

Thank you ,

Alicia C. Duke
Director, Health, Safety & Security
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AB70-COMM-17

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December 13, 2010

Submitted via e-mail to zzMSHAcomments@dol.gov

MSHA
Office of Standards, Regulations and Variances
1100 Wilson Boulevard, Room 2350
Arlington, VA 22209-3939

RE: Docket: RIN 1219-AB56

To whom it may concern:

The Mine Safety and Health Administration (MSHA) is reviewing its existing metal and nonmetal standards for dams. MSHA is concerned that some dams, and in particular dams associated with metal and non-metal mining, may pose hazards because they are not designed, constructed, operated, and maintained to accepted dam safety practices. Thus, MSHA is considering approaches to "better protect miners from the hazards of dam failures and is soliciting information to help determine how best to proceed."

The J.R. Simplot Company (Simplot) is a privately held agribusiness corporation based in Boise, Idaho. The corporation is engaged in a number of businesses including food processing, farming, fertilizer manufacturing, beef cattle feedlots, mining, ranching and other enterprises related to agriculture. Simplot has operations throughout the world and the United States. The majority of the operations in the United States are in the upper Midwest and in the West. Specifically, we operate phosphate and silica mines and operate tailings dams and impoundments associated with such mines. Thus, we have expertise and experience in regards to the regulations, design, construction and operation of such dams. Therefore we provide the following comments and information in response to this request from MSHA.

General

Dams, including tailing impoundments associated with non-metal mining are regulated by individual states. In fact, states often have detailed requirements regarding the design, approval, construction, operation and maintenance of such dams. A summary of these requirements is provided in Attachment 1 (Summary of State Tailings Dam Regulations). This summary was prepared by JBR Environmental. JBR Environmental is a multi-disciplinary environmental and engineering firm with its headquarters in Sandy, Utah. A brief statement of qualifications for JBR is provided in Attachment 2 (Statement of Qualifications for JBR).

As detailed in Attachment 1, a review of regulations for Idaho, Nevada, Utah and Wyoming show that each of these states have comprehensive requirements and standards for the design, approval, construction and operation of tailings dams. The ANPRM does not state what improvements MSHA

believes will come from having additional federal oversight of such dams. In other words, we believe that MSHA needs to determine what benefits would come from a new federal regulatory system for mental and non-metal mining dams and explain how such a system would not be duplicative or overlapping with existing state-based requirements. For example, MSHA has provided no information on deficiencies in state requirements that resulted in the dam failures cited in the ANPRM that could be remedied with a federal regulatory system.[1]

MSHA has requested information on specific topics related to mining dams; based on the review of state rules and Simplot's experience we have the following comments on a few of these topics.

Design and Construction of Dams

As described earlier in these comments, states have statutes and regulations for either a state engineer or appropriate state agency for the approval, regulation and supervision of dams, including dams associated with mining operations. Examples from either statute or rule include: .

Idaho (see attachment 3, Idaho State Regulations) requires state approval of a new tailings impoundment or modification of existing impoundment (IDAPA 37.03.05):

> 035. **PLANS, DRAWINGS, AND SPECIFICATIONS (RULE 35).**
> The following provisions shall apply in submitting plans, drawings, and specifications. (7-1-93)
>
> 01. **Submission of Plans, Drawings, and Specification.** Any owner who shall desire to construct, or enlarge, or alter or repair any mine tailings impoundment structure shall submit duplicate copies of plans, drawings, and specifications prepared by an engineer for the proposed work to the Director with required fees. An owner who desires to construct a continuously raised tailings impoundment structure shall submit duplicate copies of plans, drawings, and specifications prepared by an engineer, showing the stages of lift height, by periods of time, and ultimate design height. (7-1-93)
>
> 02. **Application for and Receipt of Written Approval.** Construction of a new mine tailings impoundment structure or enlargement, or non-emergency alteration or repairs on existing mine tailings impoundment structures shall not be commenced until the owner has applied and obtained written approval of the plans, drawings, and specifications covering the work. In emergency situations, the owner shall make the required alterations or repairs necessary to relieve the emergency, and notify the Director. (7-1-93)

Wyoming (see attachment 4, Wyoming State Statute and Regulations) also has similar language in which persons wishing to construct a dam or reservoir involving impoundment of water must obtain a permit from the State Engineer. Wyoming statute gives very broad authority to the State Engineer in regards to dams (state statute 41-3-308).

[1] In the ANPRM, MSHA has cited several dam failures that resulted in injuries or potential injuries, but no root-cause analysis is given to explain what caused the failures such as design failures, improper construction or inadequate maintenance. Before the development of new rules, we believe it is important to determine as specific as possible what the objectives are.

(d) THE STATE ENGINEER SHALL PROVIDE FOR THE REGULATION AND SUPERVISION OF ALL DAMS, DIVERSION SYSTEMS AND RESERVOIRS BY THE STATE TO THE EXTENT REQUIRED TO PROTECT THE PUBLIC SAFETY AND PROPERTY. THE STATE ENGINEER IS AUTHORIZED AND DIRECTED TO PROMULGATE REGULATIONS AND STANDARDS FOR THE DESIGN, CONSTRUCTION, ENLARGEMENT, ALTERATION, ABANDONMENT, MAINTENANCE, MONITORING, OPERATION, REPAIR AND REMOVAL OF DAMS, RESERVOIRS, AND DIVERSION SYSTEMS AS ARE NECESSARY AND PROPER TO CARRY OUT THE PURPOSES OF THIS ACT. THE STATE ENGINEER MAY WAIVE ANY OR ALL OF THE REQUIREMENTS OF THIS ACT IN INSTANCES WHERE THE DAM OR DIVERSION SYSTEM IS LOCATED IN A REMOTE AREA WHERE THERE IS NO THREAT TO THE PUBLIC SAFETY OR PROPERTY.

Nevada and Utah have similar provisions for obtaining approval of dam design.

As described in Attachment 1, the state of Idaho has very specific design criteria which are used as a guideline for the design of mine tailings impoundments. These criteria (IDAPA 37.03.05.045) include:

- Embankment slopes.
- Top width embankment.
- Cutoff trenches or walls.
- Borrowed fill embankment.
- Riprap
- Outlet systems.
- Freeboard.

It is important that design requirements provide the flexibility to meet site-specific conditions. Idaho's rules provide for that. At the beginning of Idaho's regulation of Mines Tailings Impoundment Structures, there is the following language:

> b. The design requirements listed are intended as a guide to establish acceptable standards of construction. They are not intended to restrict the application of other sound design principles by engineers. The Director will evaluate any deviation from the standards hereinafter stated as they pertain to the safety of any given mine tailings impoundment structure. Engineers are encouraged to submit new ideas which will advance the art and provide for the public safety. (7-1-93)

Further on in the regulation, this principle is discussed further:

> *"These limitations are intended to serve as guidelines for a broad range of circumstances"* and *"engineers should not consider them as a restriction to the use of other sound design criteria."*
>
> On the other hand, the rules make it clear that any deviations from these guidelines must be justified as: "*deviation from these established criteria will be considered by the Director in approving plans and specifications.*" [2]

[2] See Idaho Administrative Procedures Act 37, Title 03, Chapter 05 (IDPAPA 37.03.05) section 001 (Title and Scope) for the general language on design requirements and section 045 (IDAPA 30.03.05.045) for the application of these design criteria.

Thus, changes may be allowed if justified and approved by the Director.

Operation, Maintenance and Inspection of Dams
Also, there is a regular review (recertification) of such impoundments.

> 13. **Certificate of Approval.** A certificate issued by the Director for the mine tailings impoundment structure listing restrictions imposed by the Director, and without which no new mine tailings impoundment structures shall be allowed to impound mine tailings slurry or water and no existing impoundment shall be allowed to impound water or continue deposition of mine tailings slurry. The structure will be recertified every two (2) years, unless the Director determines that the structure is unsafe. (7-1-93)

For each of the four states we are discussing, regular inspections are conducted by the state engineer ranging from every year to every three years. After the inspections, each state also files and submits a detailed inspection report. In addition to the state inspections, each of our mines conduct routine visual inspections of our dams every shift and monthly.

Qualifications of Personnel
The state agencies discussed in this letter, employ engineers who are qualified to operate and oversee dam safety programs. MSHA does not have the expertise or experience in overseeing such programs. Since the expertise already exists in the states, we believe the regulation of dam safety should remain at the state level.

Conclusions & Recommendations to MSHA
Simplot's review of existing regulations for tailings impoundment structures for mines shows that existing states have comprehensive requirements for dam design, construction, operation, maintenance and inspections. These requirements ensure adequate safety of these structures. Therefore, we do not believe that additional regulations and requirements from MSHA on dams for metals and nonmetal mines are warranted.

Currently, the Federal Emergency Management Agency (FEMA) is charged with administering the national dam safety program. FEMA does ask MSHA to report every two years on the status of dam safety programs. Based on our conclusion that the states have adequate oversight of dam safety, we propose that MSHA work directly with the states to assure that state programs are sufficiently addressing FEMA's Federal Guidelines for Dam Safety.

Please contact us at 208.389.7331 if you have any questions regarding the information we have provided.

Sincerely,

Alicia C. Duke
Senior Director
Health, Safety & Security

Attachments:
1: Summary of State Tailings Dam Regulations
2. Statement of Qualifications for JBR.
3: Idaho State Regulations
http://www.adm.idaho.gov/adminrules/rules/idapa37/0306.pdf
http://www.adm.idaho.gov/adminrules/rules/idapa37/0305.pdf
4: Wyoming State Statute and Regulations
http://legisweb.state.wy.us/statutes/statutes.aspx?file=titles/Title41/Title41.htm
5: Utah State Regulations
http://www.rules.utah.gov/publicat/code/r655/r655-010.htm
http://www.rules.utah.gov/publicat/code/r655/r655-011.htm
http://www.rules.utah.gov/publicat/code/r655/r655-012.htm
6: Nevada State Regulations
http://www.leg.state.nv.us/NAC/nac-535.html
http://www.leg.state.nv.us/NRS/nrs-535.html

C:
Karen Bennett, National Mining Association
Jack Lyman, Idaho Mining Association
Terry Uhling. JR Simplot Company
Alan Prouty, JR Simplot Company
Mark Krall, JR Simplot Company
Dennis Facer, JR Simplot Company
Joe Maguire, JR Simplot Company
Shelia Bush, JR Simplot Company

Table 1
State Tailings Dam Regulations Comparision
J.R. Simplot Company

Requirement	State			
	Nevada	Idaho	Utah	Wyoming
Design Standard and Approval				
Dam Size Classification (small, medium, large)	Yes	Yes	Yes	No
Hazard Classification	Yes	Yes	Yes	Yes*
Prepared by Engineer	Yes	Yes	Yes	Yes
Geolologic Sections Signed by Responsible Geologist	No	No	Yes	No
Dam Plans	Yes	Yes	Yes	Yes*
Topographic Map of Site Features	Yes	Yes	Yes	Yes*
Profile Along Axis of Structure Showing Borings and Test Pits	Yes	Yes	Yes	Yes*
Cross-Sections Showing:	Yes	Yes	Yes	Yes*
Embankment Geometrics	Yes	Yes	Yes	Yes*
Freeboard	Yes	No	Yes	Yes*
Outlet System Drawings	Yes	Yes	Yes	Yes*
Spillway Information	No	Yes	Yes	Yes*
Stream Diversion Plans	No	Yes	No	No
Detailed Plans, X-Sections, and Profiles of Spillways and Diversions	Yes	Yes	Yes	No
Plan for Monitoring/Recovering Seepage from Reservoir	Yes	Yes	Yes	No
Emergency Procedure Plan	Yes	Yes	Yes	Yes*
Abandonment Plan	Yes	Yes	No	Yes*
No Plan Change without Written Authorization	No	Yes	No	Yes
Inspection and Approval Required at Select Construction Benchmarks	Yes	Yes	No	Yes
Material and Workmanship Inspections	Yes	Yes	Yes	Yes*
Engineer Report Requirements	Yes	Yes	Yes	Yes*
Formulas and Assumptions Used in Design	No	Yes	No	No
Hdyrologic Data for Drainage Area Runoff	Yes	Yes	No	Yes*
Engineering Properties of Embankment and Foundation Material	Yes	Yes	Yes	Yes*
Stability Analysis	Yes	Yes	Yes	Yes*
Geologic Description	Yes	Yes	Yes	Yes*
Landslide Potential	No	Yes	No	No
Chemical Analyses of Slurry Material	No	Yes	No	No
Earthquake Design Loads/Seismic Analysis	Yes	Yes	Yes	Yes*
Seepage Analysis of Embankment and Reservoir Bottom	No	Yes	Yes	Yes*
Hydraulic Analyses of Outlet System and Spillway	Yes	Yes	Yes	Yes*
Engineering Properties and Weathering Characteristics of Tailings	No	Yes	Yes	No
Appurtenances Details	Yes	Yes	Yes	Yes*
Geotechnical Specifications	Yes	Yes	No	Yes*

Table 1
State Tailings Dam Regulations Comparision
J.R. Simplot Company

Requirement	State			
	Nevada	Idaho	Utah	Wyoming
Flood Potential Specifications	Yes	Yes	Yes	Yes*
Potential Independent Consultant Review of Design, Construction, and Operation	No	No	Yes	Yes
Construction Requirements				
PE Oversight of Dam Construction	No	Yes	Yes	Yes
Minimum Safety Factors	Yes	Yes	Yes	Yes*
Tailing Testing Required for Use in Construction	Yes	Yes	No	No
Instrumentation Required to Ensure Proper Structure Functioning	Yes	Yes	No	Yes*
Top Width Embankment	No	Yes	Yes	Yes*
Minimum top Width for Embankments	No	Yes	Yes	Yes*
Outlet Systems	No	Yes	Yes	Yes*
Freeboard Details and Requirements	Yes	Yes	Yes	Yes*
Abandonment	No	Yes	No	Yes*
Internal and External Erosion Control Measures	Yes	No	Yes	Yes*
Operations, Maintenance, and Inspections				
Records	No	Yes	Yes	Yes
All Instrumentation Read and Recorded on Regular Basis	No	Yes	Yes	Yes*
Inspection Completion Reports	Yes	Yes	Yes	Yes
Engineer to Submit Test Reports and Periodic Progress Reports	Yes	Yes	Yes	Yes
Status Reports upon Completion of Each Phase Of Work	Yes	Yes	No	No
Instrumentation Specifications	No	No	Yes	Yes*

Notes:
Data compiled from State Regulatory Statues. See text for references.
* = Data colleted from draft rules for the state of Wyoming.

Statement of Qualifications for JBR

JBR has specific project experience with all environmental aspects of hard rock mill tailings storage facilities as described in the following examples:

IS&R Tailings Reclamation, Utah
JBR provided environmental site investigations and closure/reclamation plans and cost estimates for this historic tailings disposal facility outside of Tooele, Utah. Work included geotechnical investigations and design of a stable breach in the dam.

Newmont Mill 4 and Tailings Permitting, Nevada
All NEPA and state permitting documents required for the Newmont Mill 4 and tailings pond in the Carlin Trend were prepared by JBR.

Brush Resources Tailings Dam Design and Groundwater Investigations, Utah
JBR prepared the designs and permit applications for raising the Brush Resources tailings dam near Delta, Utah and also provided comprehensive groundwater site investigation and remediation services for the same facility.

Ward Mill Tailings Dam Modifications, Nevada
JBR was retained to provide designs for raising and stabilizing this tailings dam prior to its rehabilitation for a mill startup.

Arizona Copper Tailings Release Studies, Arizona
JBR assisted in the investigation of environmental impacts from an accidental release of stormwater and tailings from an operating tailings storage facility in Arizona.

Arizona Copper Tailings Dust Control Monitoring, Arizona
JBR is currently providing air quality monitoring services for an operating tailings pond in Arizona which is undergoing testing for different dust control methods.

McGill Tailings Reclamation Planning, Nevada
The conceptual reclamation plans and cost estimates for this historic copper tailings facility outside of McGill, Nevada were provided by JBR.

Ozark Lead Tailings Reclamation Planning, Missouri
JBR conducted site investigations and provided conceptual reclamation plans and cost estimates for an operating lead concentrator tailings pond.

Multiple Newmont Tailings Reclamation Cost Estimates, Nevada
JBR has provided detailed reclamation/closure cost estimating for a number of the Newmont gold mines and mills in Nevada, including their tailings ponds.

Simplot Smoky Canyon Tailings Pond, Idaho
JBR provided groundwater impact investigations for this operating tailings facility in Idaho that included installation and testing of monitoring wells and interpretation of hydrogeology data.

Solvay Minerals Tailings Pond, Wyoming

Attachment 2

JBR provided groundwater chemistry investigation services for this operating tailings pond in Wyoming that included interpretation of solute and isotopic water chemistry data to better understand the extent of a groundwater plume.

Homestake Mill Tailings Pond, South Dakota

JBR provided detailed reclamation/closure cost estimating this historic tailings pond in South Dakota and also provided groundwater impact analyses.

Thompson Creek Mine and Tailings Expansion, Idaho

JBR is currently providing third party contractor EIS services to the BLM for the proposed Thompson Creek mine and tailings pond expansion in Idaho. Work includes third party review of all design documents for the tailings dam.

Simplot Vernal Phosphate Tailings Expansion, Utah

JBR provide conceptual design services for a potential new tailings storage facility for this operating phosphate mill. Permitting was provided for a raise on the existing tailings dam and pond.