Complying with the final rules through utilization and much more!

Mark Rokoff, PE
AECOM

http://www.flyash.info/
Agenda
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01 Focus on Utilization

02 Prepare for Program Establishment

03 Suggestions to Establish a Successful Program

04 Summary
Beneficial Use Criteria

Beneficial use of CCR means the CCR meet all of the following conditions:

01 The CCR must provide a functional benefit;

02 The CCR must substitute for the use of a virgin material, conserving natural resources that would otherwise need to be obtained through practices, such as extraction;

03 The use of the CCR must meet relevant product specifications, regulatory standards or design standards when available, and when such standards are not available, the CCR is not used in excess quantities; and

04 When unencapsulated use of CCR involving placement on the land of 12,400 tons or more in non-roadway applications, the user must demonstrate and keep records, and provide such documentation upon request, that environmental releases to groundwater, surface water, soil and air are comparable to or lower than those from analogous products made without CCR, or that environmental releases to groundwater, surface water, soil and air will be at or below relevant regulatory and health-based benchmarks for human and ecological receptors during use.
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A successful program integrates effective applications of beneficial use.
Ash Consolidation – Must Be Beneficial

Ash Consolidation
Use CCR from existing Surface Impoundment (SI) to construct crown/cover system for inactive SI.

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Evaluated a Benchmarking Study

- **CCP Production, tons per year**
  - **Reused**
  - **Total**
  - **% Reuse**

**Percent Reuse**
- **Range:** 87%‐100%
- **Range:** 6%‐30%

- **Majority of large producers have comparable reuse rates**
- **The highest reuse percent performers are small producers**

**UTILITY**
- CCP Production
- CCP Amount Reused
- % Percent Reused
Key Benchmark Survey Findings

Significant Trends that lead to higher reuse rates

• Corporate policies that encourage beneficial reuse
  – With measureable goals
  – Considered when making financial decisions related to reuse and disposal
• Subsidizing beneficial reuse
• Having established markets with end users
• Implementation of strategies to improve and excel beneficial reuse

Common Factors of Top CCP Producers

• Marketers have an established market with end users, a regional presence and integrated operations
• Both short and long term utilization programs are established
• Integrated transportation and storage options available to the utilities (barge, rail, silo)
• Focus on cost avoidance for disposal
• Locate concrete or wallboard plants at or near the power plant

Consider

• Market studies
• Beneficiation evaluations
• Assess new applications
• Other…

Overall conclusion:
Utilities with corporate policies encouraging beneficial reuse with measurable goals have higher reuse rates
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In AECOM's experience, a recommended approach...

Establish Program

Develop Standards

Define Goals as a Team

Setup Administration

Safety Approach

Goals and Training

Transition Plan

Condition Assessments

Site Studies

Uniform Approach

Implement Program

Reporting

Prioritization of Findings

Develop Approach

Implement

Reporting

Independent Review

Implement Prioritization Plan

Short Term

Repair Seeps, Instabilities, etc

Establish I&M Network

Long Term
Establish a Fleet-wide Program

» Establish a program
  • Define teams and assign Station Managers, Review team, etc.
  • Utility to establish stakeholders and processes

» Develop programmatic standards to comply with the CCR Rule (technical, reporting, etc.)

» Define the goals of the program (re-evaluate)
  • Establish stages or phases
  • High-level schedule of initial tasks

» Setup Program Approach
  • Define and implement Safety Program
  • Develop and implement training
  • Develop forms for activities
Condition Assessments

» Transition Plan

» Condition assessments of existing facilities/units
  • Desktop studies of existing facilities/units
  • Develop a uniform approach to condition assessments
  • Implement condition assessment program
  • Prioritization assessment and reporting

» Prioritization of condition assessment findings
  • Develop a prioritization approach. Consider…
  • Implement prioritization approach
  • Summarize prioritization approach in a report
  • Independent review of prioritization approach
Implementation Prioritization Plan

> Implement prioritization approach (short-term plan)
  - Engineer repairs to seeps, unstable areas, groundwater impacts, etc.
  - Establish an instrumentation monitoring network

> Implement prioritization approach (long-term plan)
  - Evaluate Checklists for each CCR Unit to comply with the CCR Rules
  - Develop Action Items and Scope of Work
  - Implement SOW in a staged/phased approach
  - Maintain Safety and Quality
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### Suggestions to Establish a Program

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<tr>
<td>Consistency across the fleet/program</td>
<td>With the volume of efforts for a given utility spread across a (large) number of impoundments and landfills, consistency across the fleet of CCR units is important.</td>
<td>• Programmatic document or similar procedural guidance</td>
<td>This can also assist in transitioning between consultants</td>
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<td></td>
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<td>• Establish a steering committee</td>
<td>Proactive approach to consistency through program-level documentation can increase efficiency</td>
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<td>This includes approach to engineering, O&amp;M, inspection, instrumentation, reporting, lab testing, and more.</td>
<td>• Quality review team</td>
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| Reporting Format          | The volume of required reporting will be significant, so establishing well-conceived, useable forms for the various reporting requirements will be critical. Formats recommended for:  
  - Reports, Plans, and Demonstrations  
  - Notifications  
  - Lab data | - Establish report formats for Operating Record (OR) and CCR website postings  
  - Discuss level of explanation (will the goal be explanatory/detailed or minimalist)  
  - Establish procedures and protocols for notifications to the State and the CCR website (include answers to who, what, and when in the resolution)  
  - Establish if reports, plans, etc. are to be provided as drafts and procedure to review and finalize. | Make distinctions between reporting-of-fact (lab data, activity notifications) and reporting of findings (statistical interpretation, data evaluation). |
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<td>Posting to Operating Record (OR) and CCR</td>
<td>Determine level of effort, format, review process, etc. related to posting</td>
<td>• Define items to post to the OR and CCR website and corresponding schedule</td>
<td>Included would be the physical location of the OR as well as back-up procedures and quality verifications</td>
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<td>website protocols</td>
<td>to and maintaining the OR and CCR Website</td>
<td>• Define process and format for items posted to the OR and CCR website</td>
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<td>• Define process to maintain</td>
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<td>• Identify role/staff to lead the task</td>
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<td>• Develop public fact sheets to explain information on the CCR website to reduce</td>
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<td>possible actions</td>
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| Quality       | Control of the accuracy and precision of data generated, findings developed, and communications posted when complying with the CCR Rule | - Establish quality procedures for generation, management, evaluation, and presentation/reporting of data (field procedures, laboratory standards, report detail checking, and independent technical review)  
- Establish guidelines for internal and external staff roles and responsibilities (revise as appropriate)  
- Establish a verification process to close out actions  
- Quality control/assurance plans in place for data collection and review | In some cases, this may include evaluating tasks and redefining measurable standards to aid in the QA process  
May involve procedures to review and appropriately flag third party data such as GW laboratory analyses as data basis for action triggers and decision-making  
The consequence of poor quality control will have the potential to be greatly magnified by the citizen-complaint process of governance. |
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| Determine program-wide activities  | Several activities may be appropriate to establish once and provide for all facility-related projects (e.g., liner equivalency, repair actions, closure protocols, borrow source assessments, etc.) as well as decisions that are fleet-wide | - Establish a steering committee  
- Evaluate and provide decisions on program level efforts  
- Perform program-wide engineering assessments | Important to provide system for new information review and program integration as CCR Rule interpretations evolve through agency guidance and legal precedent |
| and responses                       |                                                                             |                                                                                                                                                   |                                                                                                                                                                                                          |
| Training                           | Increased efforts are required for inspection and training to create a unified and CCR Rule-compliant approach is important. This also applies to other tasks as well such as engineering, laboratory testing, etc. | - Develop and present training for CCR Unit inspections  
- Develop guidance protocol (document) for conducting and reporting inspections  
- Evaluate other training needs | It is important to inform staff not only how to inspect, but also how to document their observations and any necessary repairs  
Management/legal input on appropriate terms to use and those to avoid |
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| Instrumentation               | The Final CCR Rule requires monthly instrumentation readings; however, to effectively monitor instrumentation establishment of action levels is appropriate                                                                 | • Determine action levels on all instruments in the monitoring program  
• Establish action levels where they do not exist  
• Establish responsibility for routine engineering review of instrumentation data and to modify reading frequencies, etc. as required. |                                                                                                                                                                                                                  |
| Develop compliance calendar   | Determine a comprehensive compliance schedule                                                                                                                                                                | • Develop a compliance calendar of work orders/activities to assist in compliance                                                                                                                                 | Include contracting as well as execution deadlines in an active format that can be shared between management and implementation staff. |
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<td>Timeline Criteria</td>
<td>Evaluate and incorporate reviews and other efforts that impact schedules (including studies)</td>
<td>• Develop appropriate review time for appropriate individuals (legal, management, etc.) to build into schedules</td>
<td>Assess strategies early and determine outside impacts (including ELGs, etc.)</td>
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<td>Legal role (during assessments and after)</td>
<td>Determine the role of counsel in the process of data collection, studies, final determination, reporting, posting, etc.</td>
<td>• Evaluate key decisions and determine proactive positions   • Establish roles and level of efforts for certifying actions by a qualified PE (internal or external)</td>
<td>May be appropriate to include a representative on a steering committee</td>
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<td>Emergency Action Plan (EAP)</td>
<td>The Final CCR Rule requires the development of an EAP for some impoundments; however, additional efforts may be appropriate (e.g., training and testing, availability of materials, establishment of contracts, etc.)</td>
<td>• Develop a compliant EAP per the Final CCR Rule   • Identify and implement additional efforts to maintain and exercise EAPs</td>
<td>Consider desktop drill with emergency management personnel.</td>
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| **Evaluation of Beneficial Use (BU) Program** | With the focus on complying with the Final CCR Rules, maintain a diligent program for beneficial use options | - Establish goals and metrics to achieve BU applications  
- Explore BU alternatives as well as assess market demands  
- Explore BU alternatives to assist in CCR impoundment closures | Consider beneficiation of fly ash, use of ponded CCR, applications to support closure activities |
| **Establish long-term agreements** | Considering the industry’s volume of pending activities, establishing long-term relationships will aid in securing cost-effective, quality services | - Identify areas to establish relationships (engineering consulting, construction, material needs, laboratories, etc.) | For the purpose of cost efficiency and partnerships throughout the program |
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Suggestions to Establish a Program

Overview

01 Establish consistency across the program
   • Programmatic document(s) (technical standards)
   • Reporting, demonstrations, etc.
   • Establish quality control (considering self implementing, CCR website, etc.) and quality assurance processes
   • Training (inspections, standards, EAP, etc.)
   • Establish instrumentation program (action levels, process, etc.)
   • Develop compliance approach to CCR Rule (schedule)
   • Evaluate alternatives and innovative approaches
   • Evaluate beneficial use program

02 Form a steering committee (Utility and Consultant)

03 Define roles and responsibilities due to new activities
   • Engineering, O&M, regulatory, legal, etc. (internal to Utility)

04 Consider long-term agreements (consultant, contractor, lab, etc.)

05 Maintain focus on beneficial use
Thank you
Please contact us for more information

Mark Rokoff
National Practice Lead, CCP Management
mark.rokoff@aecom.com
216.215.5419