



Coal Combustion Residuals Rule

Introduction to the draft rule

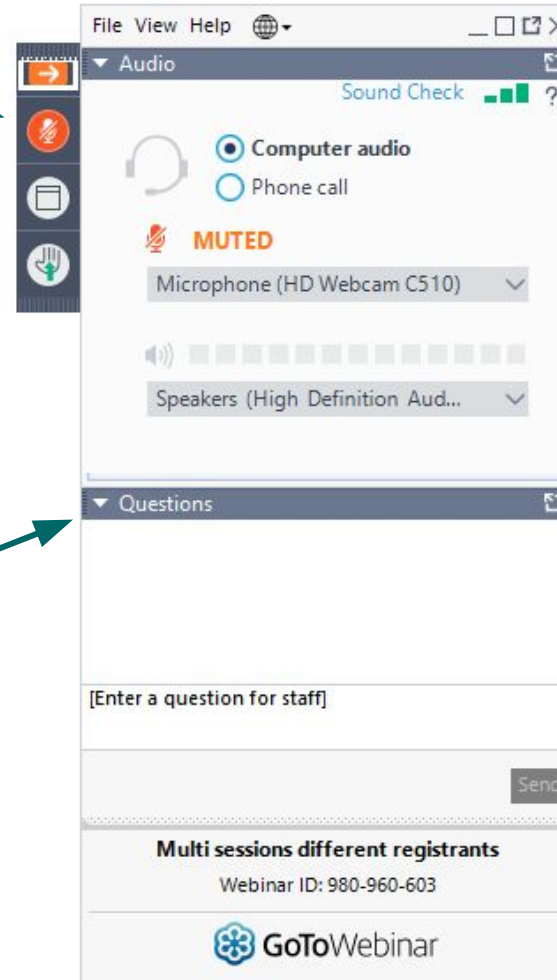
September 19, 2023



Clean Air, Safe Water,
Healthy Land for Everyone



- Muted



- Use the Question Tool





WELCOME!

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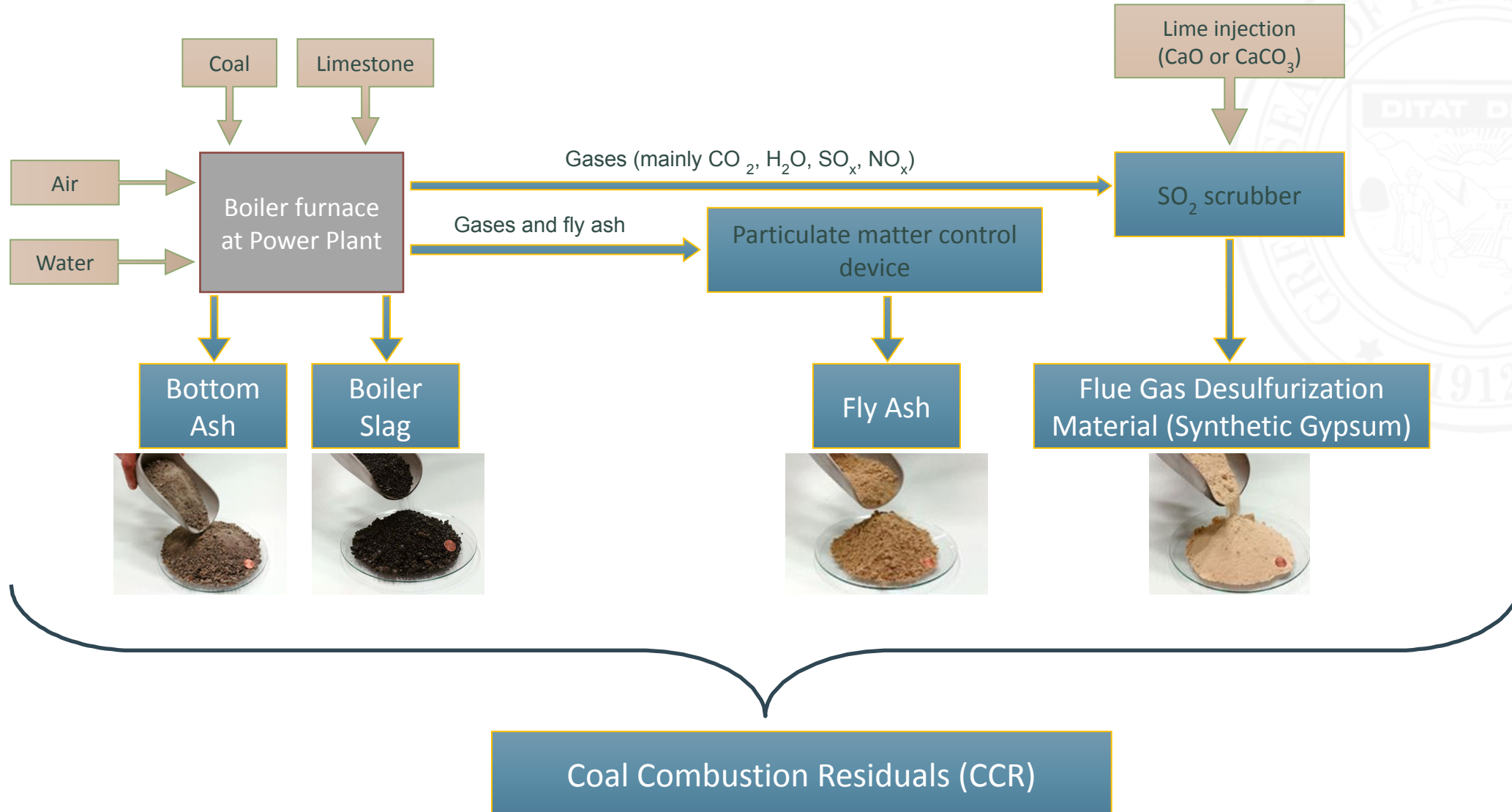
Technical Support: Naida Wallstrom, P.E., Senior Geotechnical Engineer and
Mike Ploughe, P.G., Senior Hydrogeologist



1. **Introductions**
2. **Coal Combustion Residuals (CCR) Background**
3. **ADEQ Rulemaking**
4. **Protection of Groundwater**
5. **Dam Safety**
6. **Permits and Public Participation**
7. **Fees**
8. **Timeline for Rulemaking and Program Approval**
9. **Resources for More Information**
10. **Questions**



What are Coal Combustion Residuals (CCR)?



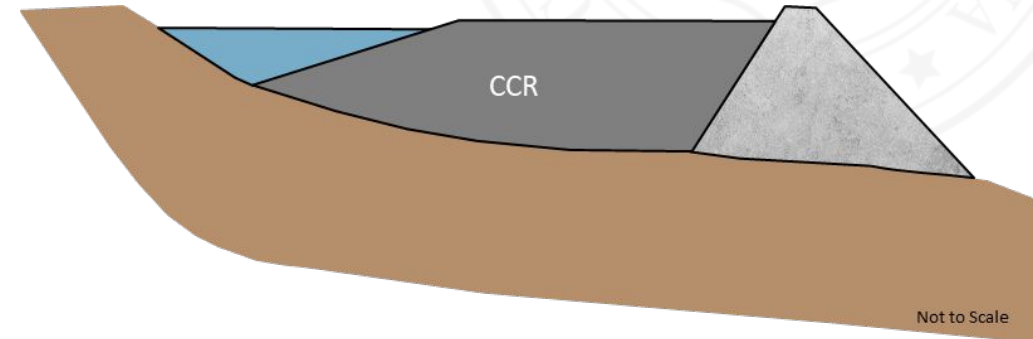
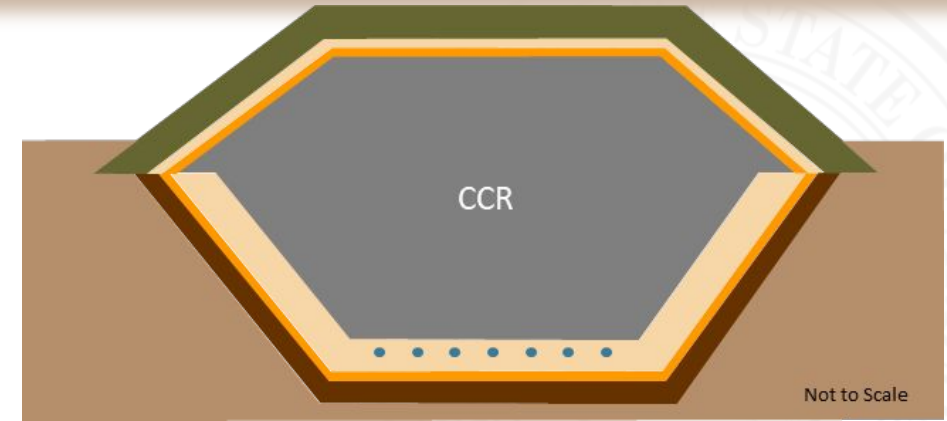
CCR Use and Disposal

Coal Combustion
Residuals (CCR)

Disposal in Landfill

Disposal in Surface
Impoundment

Used in Engineering
Products



CCR in Arizona

Arizona Electric Power Cooperative (AEPCO) – Apache Generating Station (near Wilcox)

- 1 surface impoundment and 1 multi-unit surface impoundment

APS – Cholla Power Plant (near Joseph City)

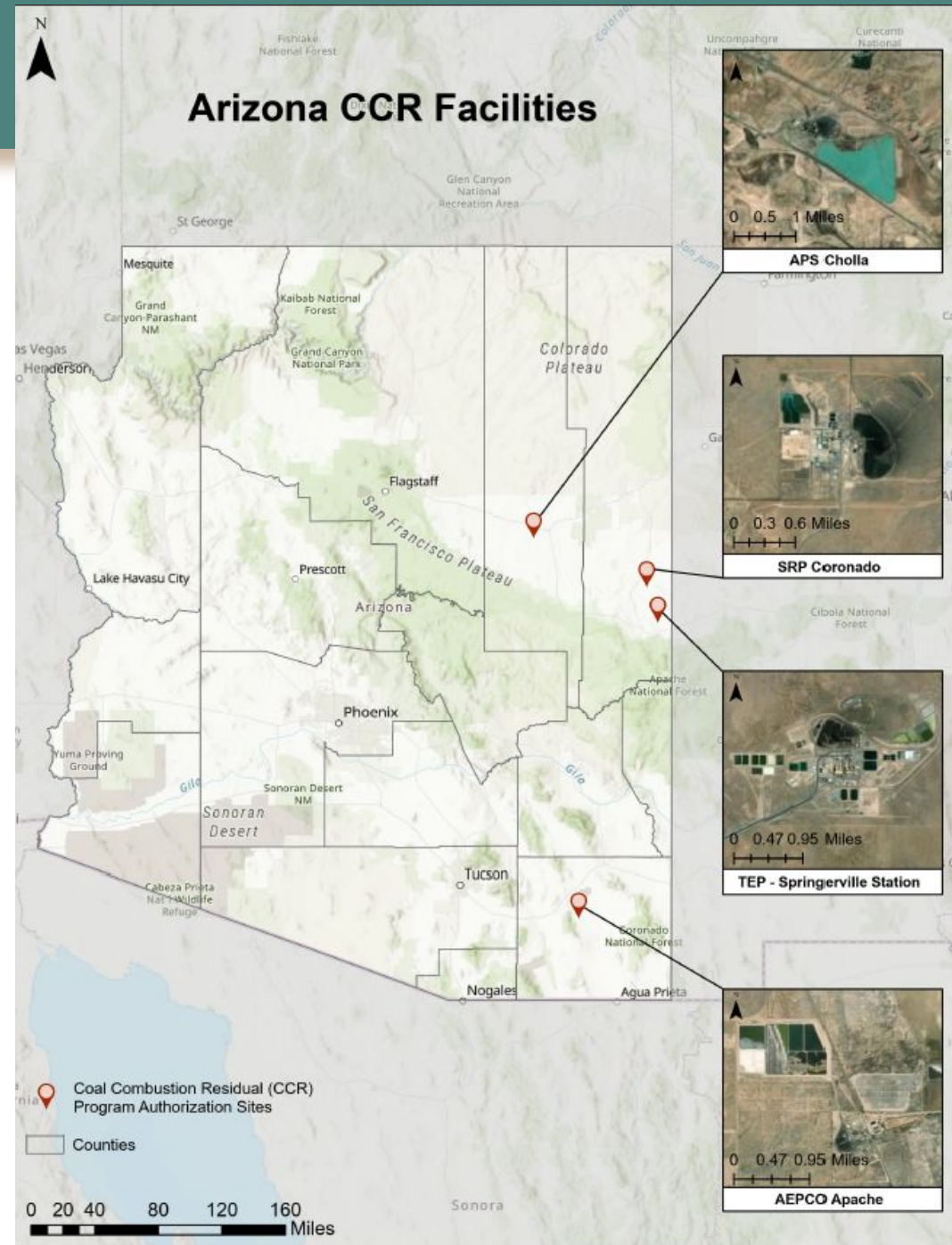
- 1 landfill
- 3 surface impoundments

SRP – Coronado Generating Station (near St. Johns)

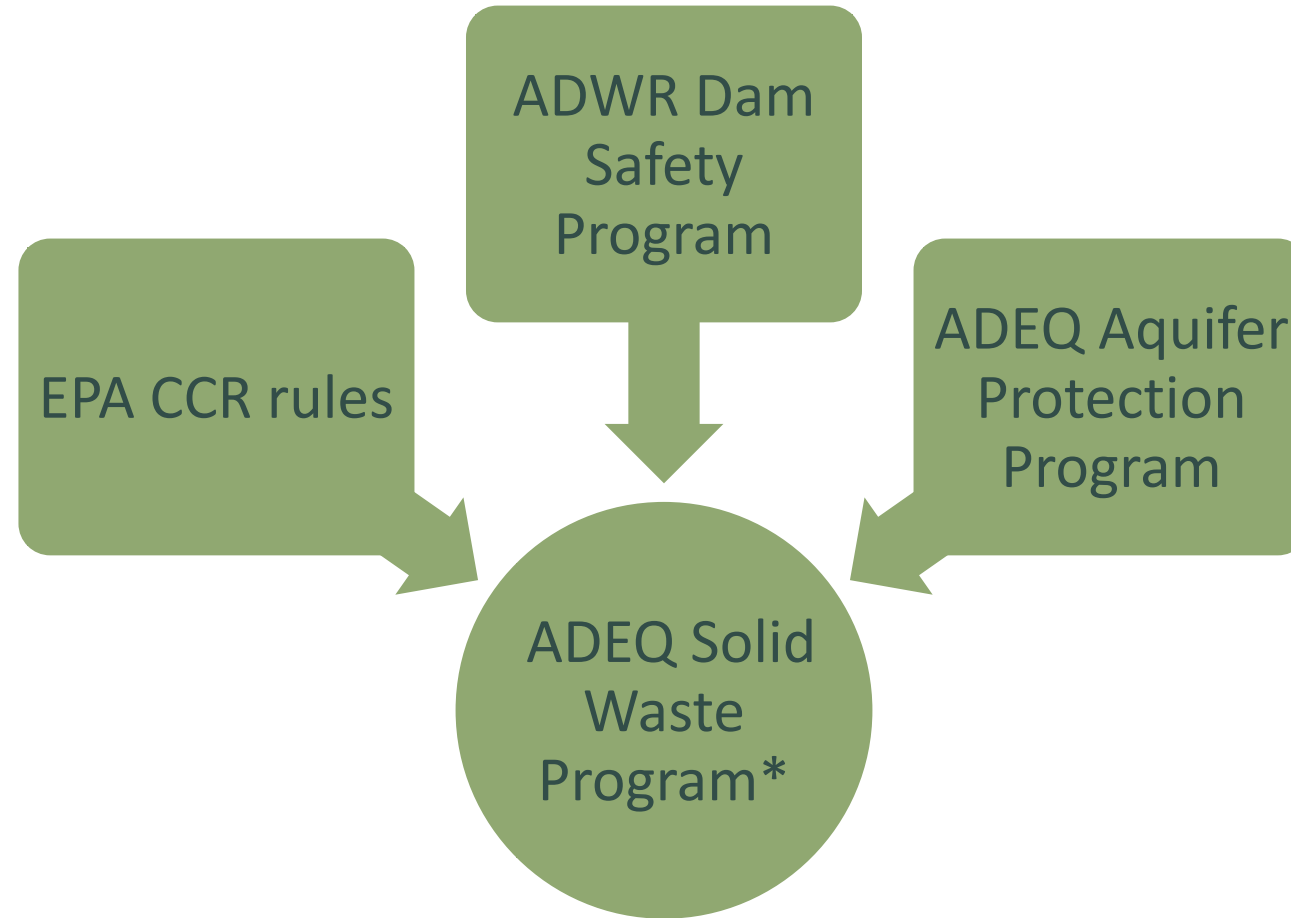
- 1 landfill
- 1 active and 1 inactive surface impoundment

Tucson Electric Power (TEP)– Springerville Generating Station (near Springerville)

- 1 landfill



How are CCR facilities regulated?



*EPA retains regulatory oversight even after ADEQ's program is approved

Guiding Principles for Arizona's CCR Program

As stringent as EPA
through
incorporating
EPA's rules by
reference

Stricter on dam
safety to align with
ADWR

Stricter on water
quality to align
with Arizona
standards

Financial
Assurance

10-year Permit
Terms

Public
Participation

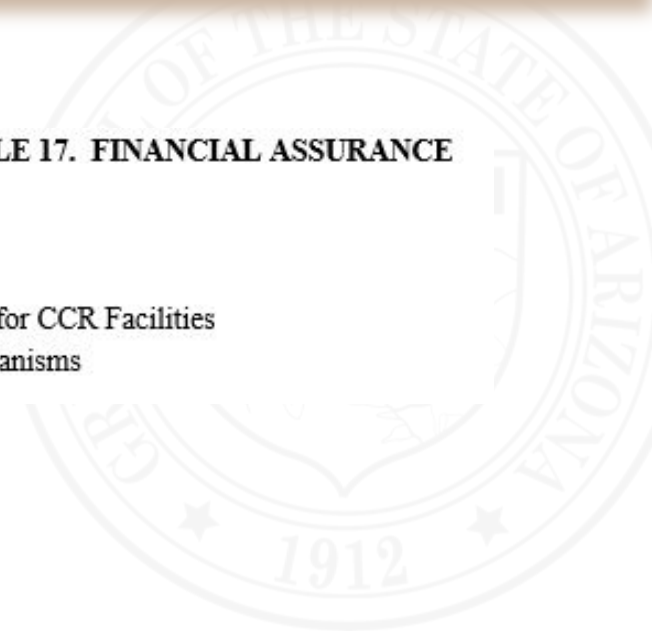
EPA approval

TITLE 18. ENVIRONMENTAL QUALITY
CHAPTER 13. DEPARTMENT OF ENVIRONMENTAL QUALITY
SOLID WASTE MANAGEMENT
ARTICLE 10. COAL COMBUSTION RESIDUALS

R18-13-1000.	Incorporation by Reference	R18-13-1010.	Permit Application Requirements for CCR Facilities
R18-13-1001.	General Provisions		
R18-13-1002.	Location Restrictions		
R18-13-1003.	Design Criteria		
R18-13-1003.01.	Additional Design Criteria for New CCR Surface Impoundments and Lateral Expansions of CCR Surface Impoundments	R18-13-1010.01.	Additional Requirements for Constructing or Modifying CCR Surface Impoundments
R18-13-1003.02.	Additional Emergency Action Plan Requirements for Arizona CCR Surface Impoundments	R18-13-1011.	Permit Contents
R18-13-1004.	Operating Criteria	R18-13-1012.	Compliance Schedules
R18-13-1005.	Groundwater Monitoring and Corrective Action	R18-13-1013.	CCR Permit Issuance or Denial
R18-13-1006.	Closure and Post-Closure Care	R18-13-1014.	CCR Permit Transfer
R18-13-1007.	Recordkeeping, Notification, and Posting of Information to the Internet	R18-13-1015.	CCR Permit Termination
R18-13-1008.	40 CFR 257, Appendices III and IV	R18-13-1016.	CCR Permit Renewals
R18-13-1009.	Reserved	R18-13-1017.	Modification of a CCR Facility Permit
		R18-13-1018.	Public Notice Requirements for CCR Permit Actions
		R18-13-1019.	Compliance, ADEQ Inspections, Violations and Enforcement
		R18-13-1020.	Financial Assurance Requirements
		R18-13-1021.	Fees
		R18-13-1023.	<i>Licensing Timeframes for CCR Facility Permits (to be proposed in a different Chapter)</i>

ARTICLE 17. FINANCIAL ASSURANCE

- R18-13-1701. Definitions
- R18-13-1702. Reserved
- R18-13-1703. Financial Demonstrations for CCR Facilities
- R18-13-1704. Financial Assurance Mechanisms





Groundwater and Corrective Action

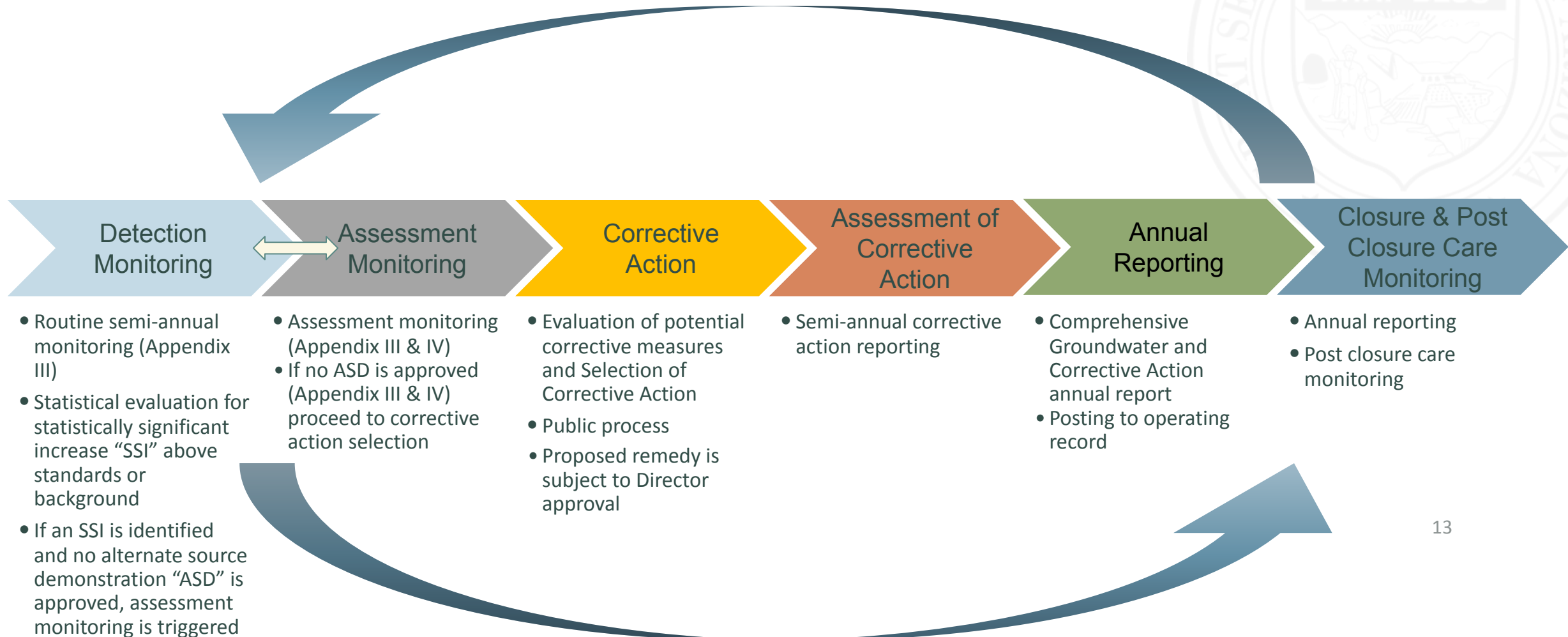
R18-13-1005 of Proposed Rule

Groundwater Monitoring and Corrective Action

- 40 CFR 257.90 through 40 CFR 257.98, revised as of December 14, 2020 (and no future editions) is incorporated by reference, modified by the following subsections, and on file with ADEQ, with the exception of 40 CFR 257.90(g), “Suspension of groundwater monitoring requirements”
- Proposed clarifications are generally limited to:
 - Detection monitoring of constituents / pollutants not listed in Appendix III or IV is reserved in order to address potential non-CCR related pollutant discharges, not subject to exemption.
 - Allow provision for ADEQ Director approvals in processes

Protection of Groundwater

Generalized overview of CCR groundwater protection and corrective action R18-13-1005 (40 CFR 257.90 - 257.98 incorporated by reference)

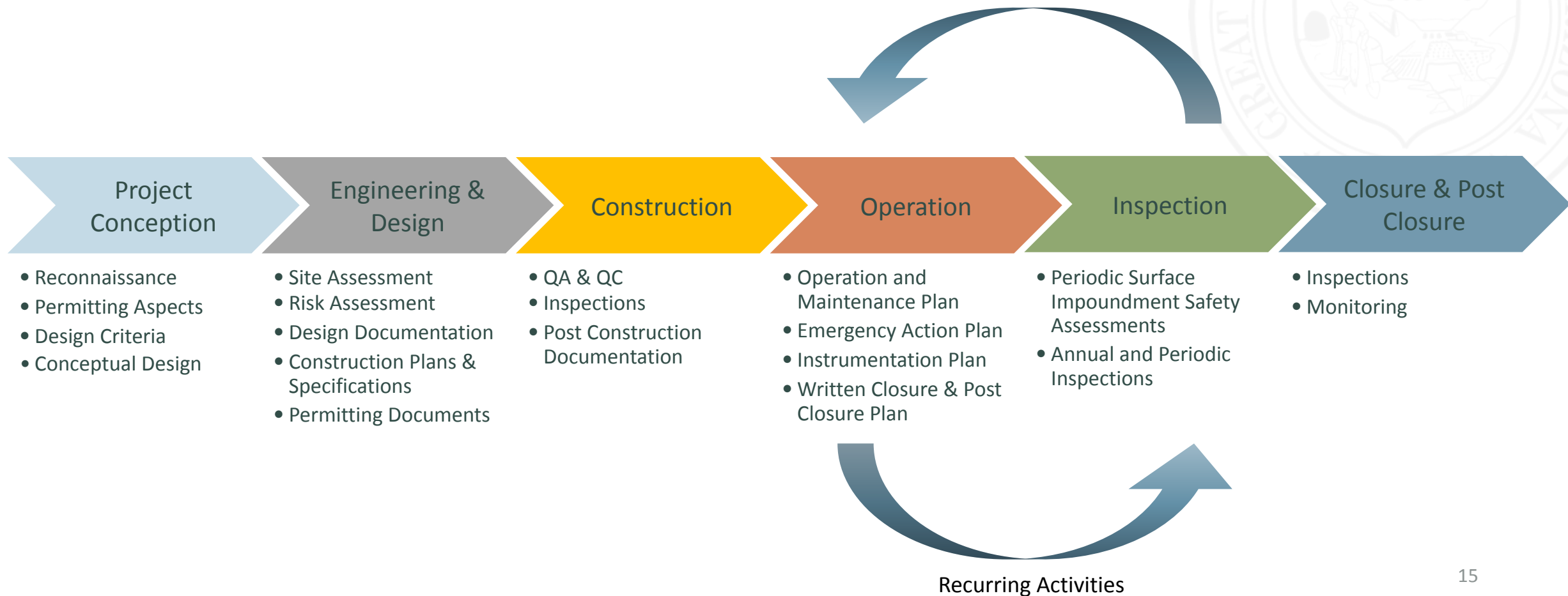




Surface Impoundments and Dam Safety

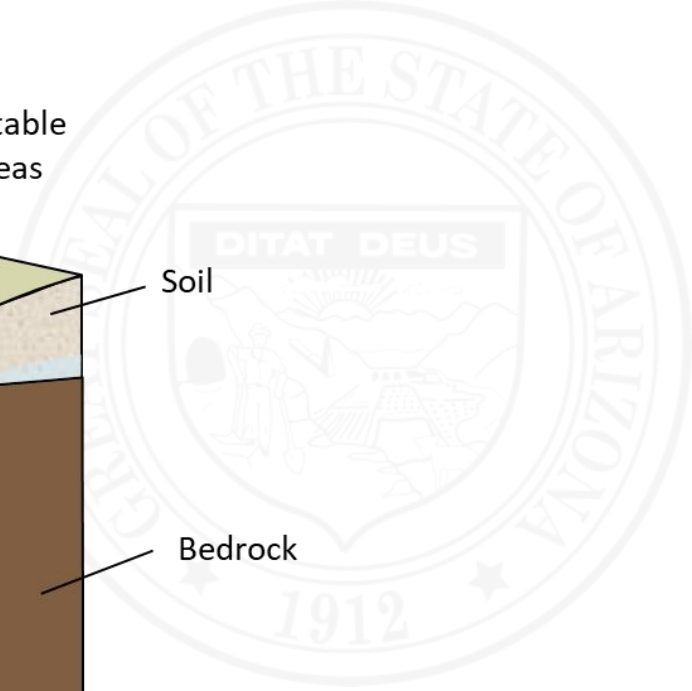
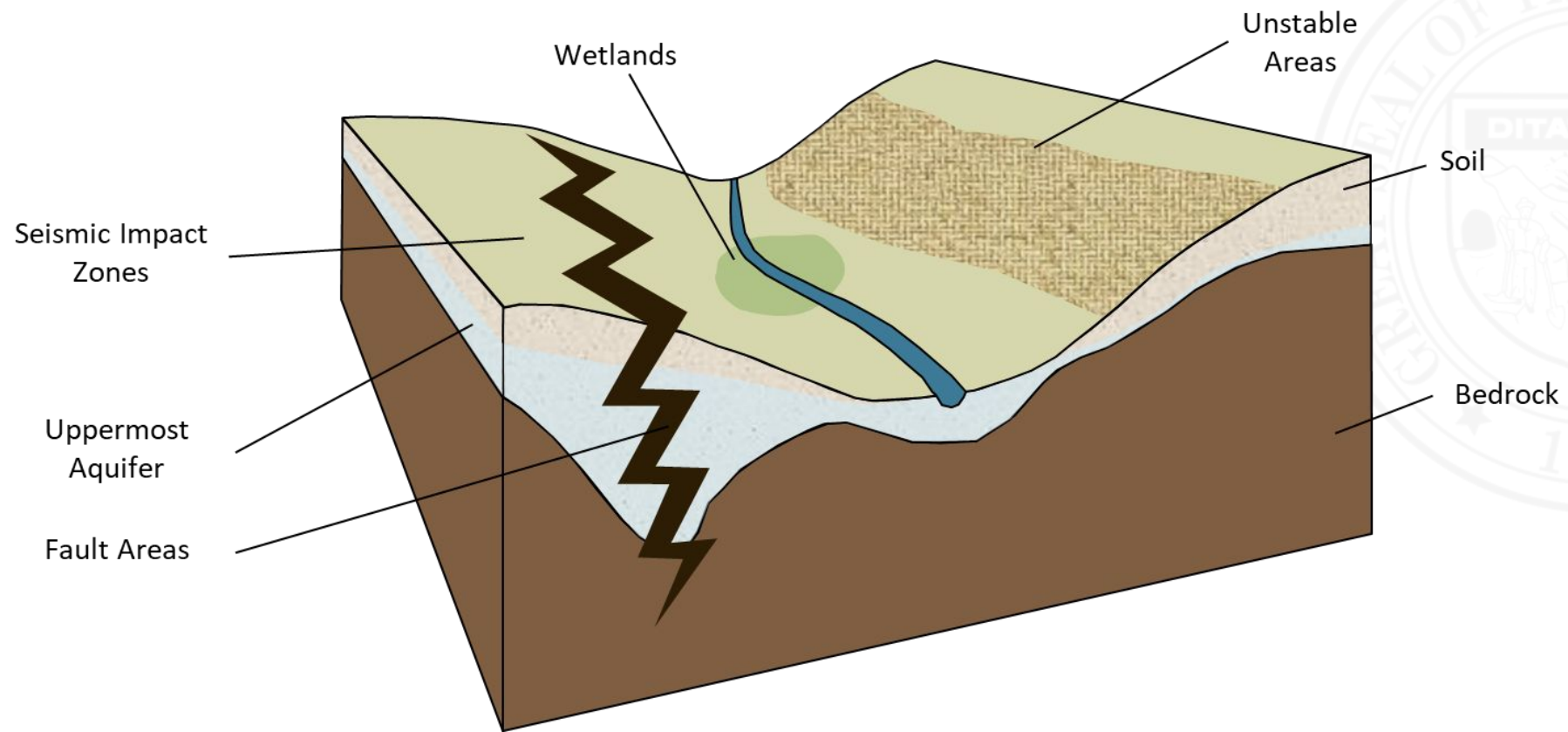
CCR Surface Impoundment Management System

General steps taken to initiate the process for CCR disposal into a surface impoundment, and how the dam safety aspect is incorporated, is presented below.





- Location Restrictions
 - § 257.62 Fault areas
 - § 257.63 Seismic impact zones
 - § 257.64 Unstable areas
- Design Criteria
 - § 257.73/74 (a)(4) and (d)(1)(iv)
 - Additional Arizona Design Criteria
- Operating Criteria
 - § 257.82 Hydrologic and hydraulic capacity requirements for CCR surface impoundments
 - § 257.83 Inspection requirements for CCR surface impoundments
- Permit Application Requirements for Constructing or Modifying CCR Surface Impoundments

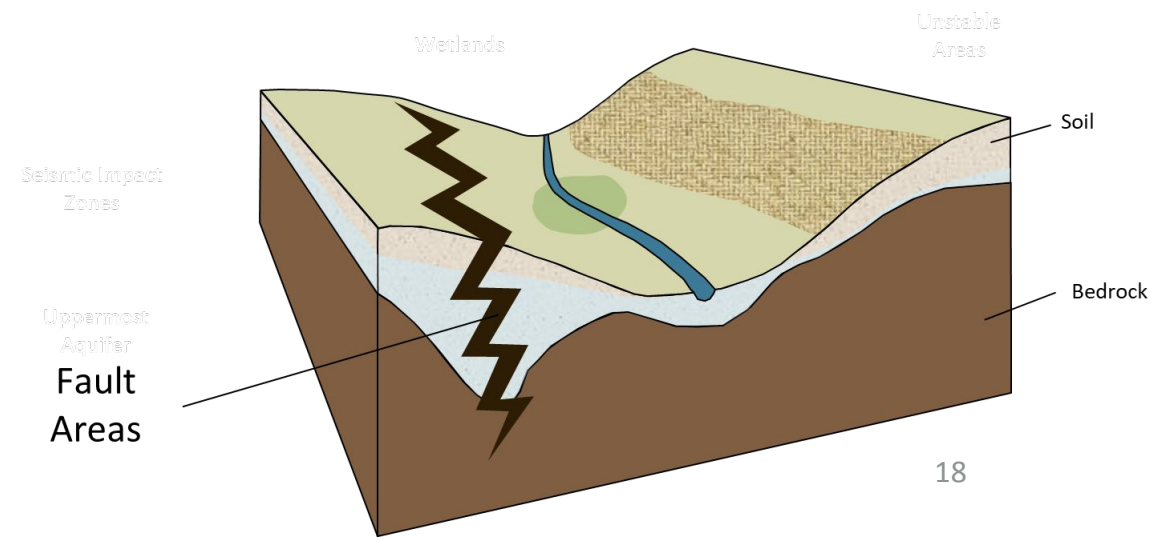


Location Restrictions

Location Restriction – Fault Areas

- § 257.62 Fault Areas

In addition to the location requirements in 40 CFR 257.62(a), new CCR surface impoundments, and all lateral expansions of CCR surface impoundments shall not be located within 60 meters (200 feet) of the outermost damage zone of a fault **that has had displacement in either Holocene or Late Pleistocene time** unless the owner or operator demonstrates by the dates specified in § 257.62(c) that an alternative setback distance of less than 60 meters (200 feet) will prevent damage to the structural integrity of the CCR impoundment. [based on R12-15-1216(A)(6)(b)]

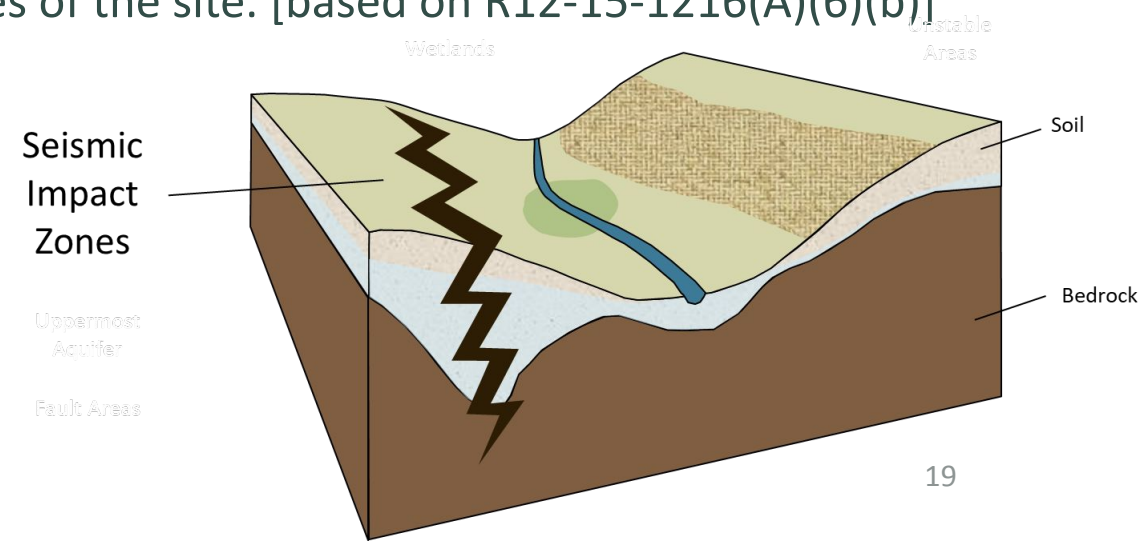


Location Restriction – Seismic Impact Zones

- § 257.63 Seismic Impact Zones

The demonstration requirement in 40 CFR 257.63(a) is amended by adding:

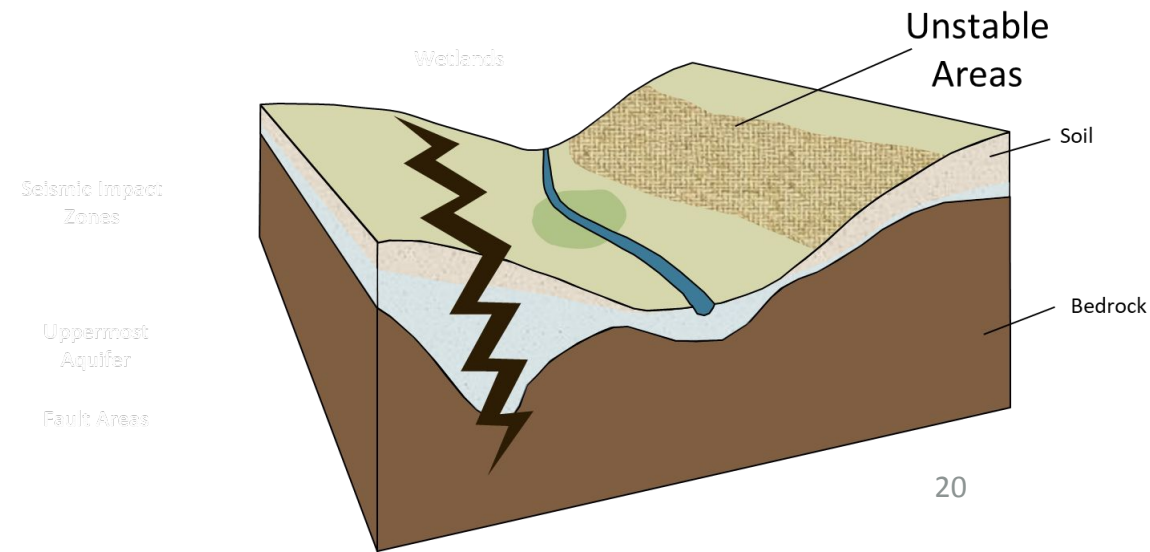
- (1) For a new or lateral expansion of a CCR surface impoundment, the owner or operator shall submit a review of the seismic or earthquake history of the area around the surface impoundment within a radius of 100 miles to establish the relationship of the site to known faults and epicenters. The review shall include any known earthquakes and the epicenter locations and magnitudes of the earthquakes [based on R12-15-1216(A)(6)(a)]
- (2) For a new or lateral expansion of a CCR surface impoundment, the owner or operator shall identify the location of active or potentially active faults that have experienced Holocene or Late Pleistocene displacement within a radius of 100 miles of the site. [based on R12-15-1216(A)(6)(b)]
- (3) For a new or lateral expansion of a high or significant hazard potential CCR surface impoundment, the owner or operator shall design the impoundment to withstand the maximum credible earthquake or the maximum horizontal acceleration, whichever is greater. [based on R12-15-1216(A)(6)(c)]

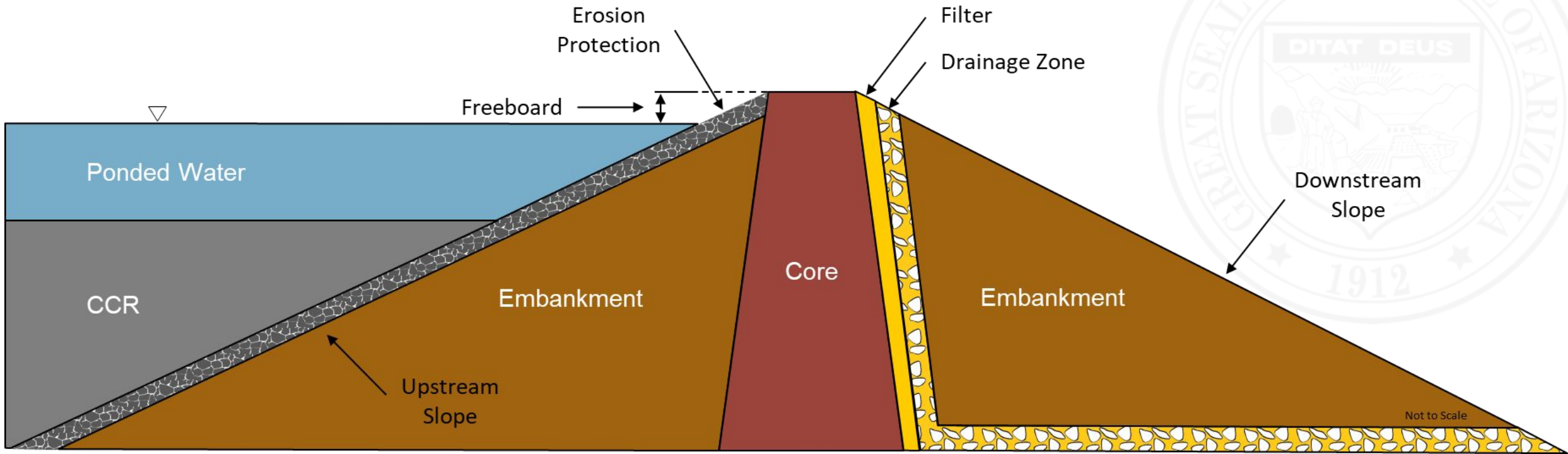


Location Restriction – Unstable Areas

- § 257.64 Unstable Areas

In addition to the requirements in 40 CFR 257.64, the owner or operator shall not construct a CCR surface impoundment on active faults, as defined by 257.62(a), collapsible soils, dispersive soils, sinkholes, fissures, or soils with the potential for subsidence, unless the owner or operator demonstrates that the CCR surface impoundment can safely withstand the anticipated offset or other unsafe effects on the CCR surface impoundment. [based on R12-15-1216(A)(5)(b) and R12-15-1215(3)(t)]





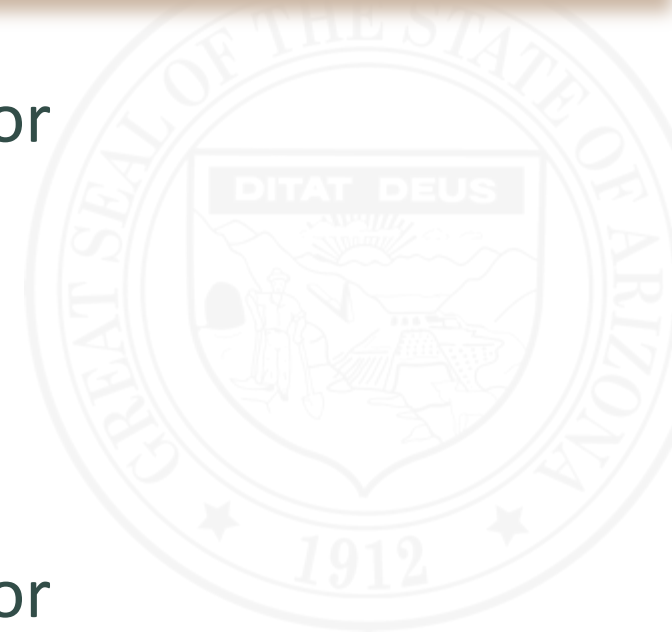
Design Criteria

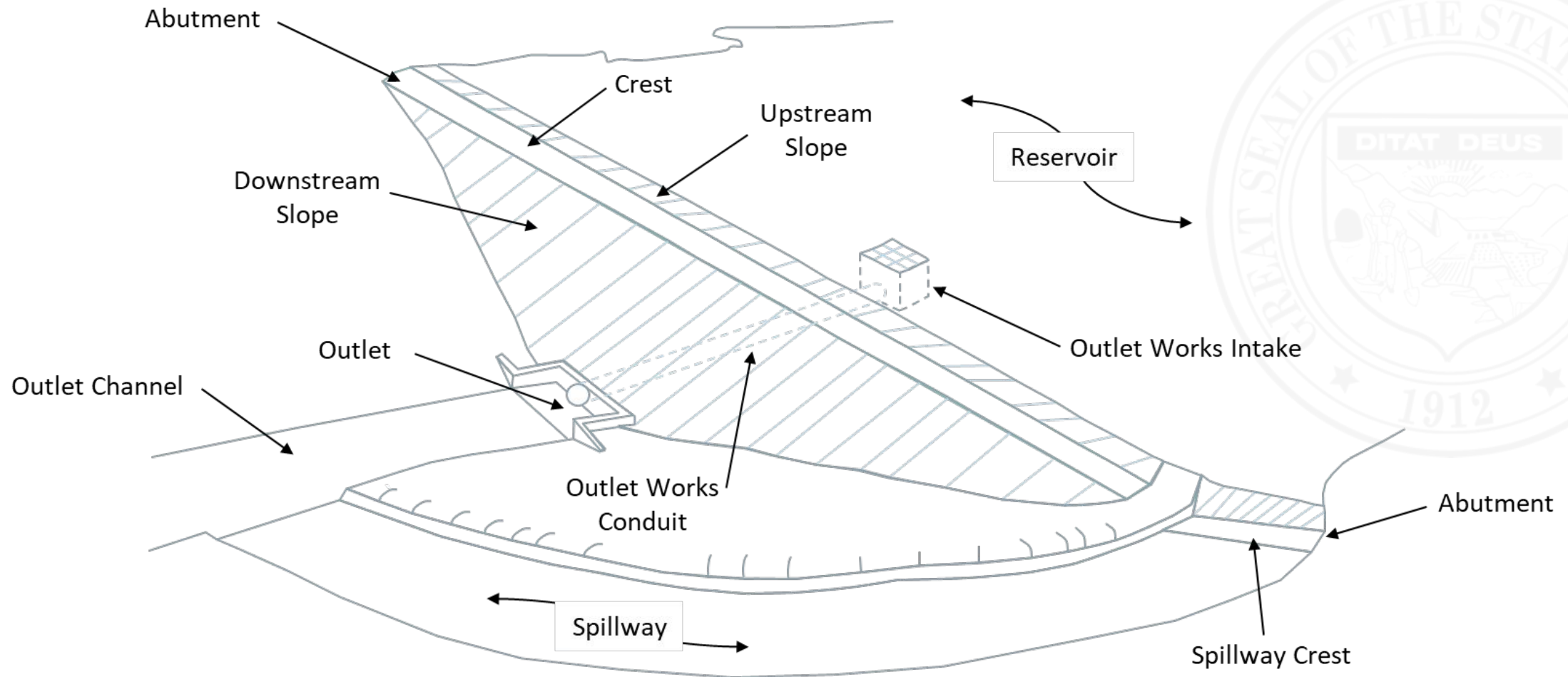
Design Criteria - Structural Integrity Criteria

- § 257.73 Structural integrity criteria for existing CCR surface impoundments:
 - 257.73(a)(4) **is amended by deleting** “not to exceed a height of 6 inches above the slope of the dike,”.
 - 257.73(d)(1)(iv) **is amended by deleting** “not to exceed a height of 6 inches above the slope of the dike,”.
- § 257.74 Structural integrity criteria for new CCR surface impoundments and any lateral expansion of a CCR surface impoundment:
 - 257.74(a)(4) **is amended by deleting** “not to exceed a height of 6 inches above the slope of the dike,”.
 - 257.74(d)(1)(iv) **is amended by deleting** “not to exceed a height of 6 inches above the slope of the dike,”.

Design Criteria – Additional ADWR Criteria

- Assimilated portions of the following ADWR Sections for R18-13-1003.01:
 - R12-15-1216(B)(1) Geotechnical Requirements
 - R12-15-1216(B)(2) Seismic Requirements
 - R12-15-1216(B)(3) Miscellaneous Design Requirements
- Assimilated portions of the following ADWR Sections for R18-13-1003.02:
 - R12-15-1217(C) Emergency Actions
 - R12-15-1221 Emergency Action Plans
 - R12-15-1224 Emergency Procedures

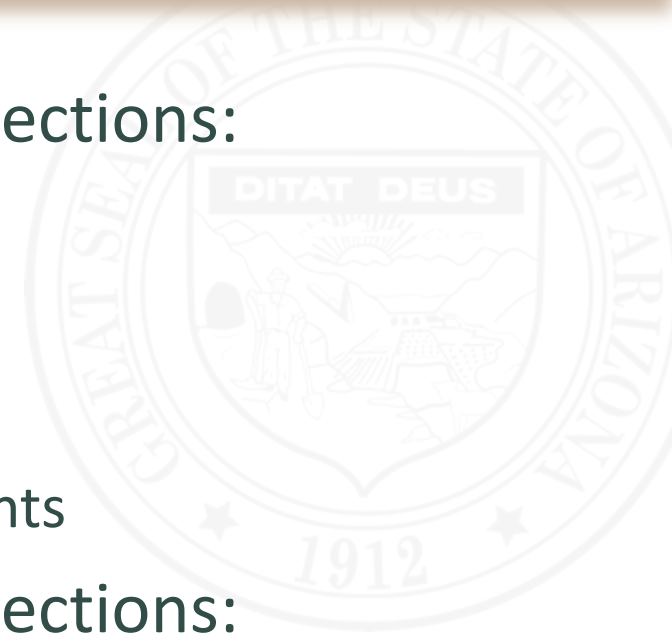




Operating Criteria

Operating Criteria – ADWR Rules

- § 257.82 assimilated portions of the following ADWR Sections:
 - R12-15-1216(A)(1) Emergency Spillway Requirements
 - R12-15-1216(A)(2) Inflow Design Flood Requirements
 - R12-15-1216(A)(3) Outlet Works Requirements
 - R12-15-1216(A)(4) Dam Site And Reservoir Area Requirements
- § 257.83 assimilated portions of the following ADWR Sections:
 - R12-15-1217(A)&(B) Maintenance and Repair
 - R12-15-1219 Safety Inspections





Permit Application Requirements for Constructing or Modifying CCR Surface Impoundments

- Sections assimilated from ADWR for R18-13-1010.01:
 - R12-15-1208 Application to Construct, Reconstruct, Repair, Enlarge, or Alter a High or Significant Hazard Potential Dam
 - R12-15-1209 Application to Breach or Remove a High or Significant Hazard Potential Dam
 - R12-15-1210 Application to Construct, Reconstruct, Repair, Enlarge, Alter, Breach, or Remove a Low Hazard Potential Dam
 - R12-15-1212 Construction of a High, Significant, or Low Hazard Potential Dam
 - R12-15-1213 Completion Documents for a Significant or High Hazard Potential Dam
 - R12-15-1215 Construction Drawings, Construction Specifications, and Engineering Design Report for a High, Significant, or Low Hazard Potential Dam



CCR Permits and Public Participation

Permitting Basics

- 10-year permit term, renewable
- One facility-wide permit covering multiple CCR units
- CCR Units can be
 - operating,
 - closing,
 - in post-closure and/or,
 - in corrective action
- Applications due 180 days after EPA program approval at the latest
- All dam licensing stays with ADWR until the facility CCR permit is issued
- ADEQ's review is subject to Arizona Licensing Timeframes
- Permits can include a Schedule of Compliance
- Permits will include financial assurance
- Public participation is a part of permitting decisions



CCR Permit Modifications

Major

A.A.C. R18-13-1017(E)

- “...change to a substantive term, provision, requirement, or a limiting parameter of a permit or that could substantially impact human health or the environment.”
- A new CCR unit or lateral expansion
- Reducing the post-closure care period
- Increasing the storage level or raising the embankment
- Remedy selection

Minor

A.A.C. R18-13-1017(F)

- “...makes a routine change to a substantive term, provision, requirement, or a limiting parameter of a permit.”
- Modifying the groundwater program
- Operational change
- Reduced frequency for monitoring or inspections
- Change in financial assurance
- Many examples in the rule

Administrative

A.A.C. R18-13-1017(G)

- Typographical errors
- Nontechnical administrative information
- Increased frequency of inspections or monitoring
- Correction of minor technical errors or citations

Public Participation for New Permit/Major Modification

Notice of Admin Complete

ADEQ has received all application materials needed to start the technical review.

Application materials are posted on the ADEQ website and at a community location near the facility.

Notice to email list and A.R.S. §49-111 recipients.

Technical Review

ADEQ engineers and hydrogeologists review the application materials in detail.

Proposed Decision

ADEQ proposes to issue or modify the permit.

ADEQ posts a public notice and a draft permit on the ADEQ website.

Public notice published in newspaper.

Notice to email list

Public Comment Period

There is a 30-day public comment period, which can be extended.

A public hearing can be requested.

Final Decision

ADEQ issues final permit and written response to all comments received during the public comment period.

Posted on ADEQ website.

Notice to email list

Public Participation for Minor Modification

Notice of Admin Complete

ADEQ has received all application materials needed to start the technical review.

Application materials are posted on the ADEQ website.

Notice to email list

Technical Review

ADEQ's engineers and hydrogeologists review the application materials in detail.

Final Decision

Post notice on website and send notice to email list



CCR Program Fees

CCR Unit Annual Registration Fees

CCR Surface Impoundment	\$17,450 each*
CCR Landfill	\$13,150 each*
Closed CCR Unit subject to post-closure	\$10,200 each*

CCR Permitting Application Fees and Maximum Fees

License Type	Initial Fee*	Maximum Fee*
CCR Facility Permit (new or renewal)	\$20,000	\$200,000
Major Modification	\$10,000	\$100,000
Minor Modification	\$5,000	\$50,000
Administrative Modification	\$500	\$5,000

* Adjust by Consumer Price Index inflator.

What Comes Next?

**Final Rule and Governor's
Regulatory Review Council
Approval**
June 2024

**Submit Program to
EPA for approval**
August 2024

**Notice of Proposed
Rulemaking**
estimated January 2024

3rd Stakeholder Meeting
November 2023



Stakeholder Meetings
July 27 and Sept 19, 2023



EPA CCR web page <https://www.epa.gov/coalash>

ADEQ rulemaking web page <http://www.azdeq.gov/CCR-Rulemaking>

Arizona Utilities web pages:

- Arizona Electric Power Cooperative <https://ccr.azgt.coop/>
- Arizona Public Service <https://www.aps.com/en/Utility/Regulatory-and-Legal/Environmental-Compliance>
- Salt River Project <https://ccr.srpnet.com/>
- Tucson Electric Power <https://www.tep.com/ccr/>

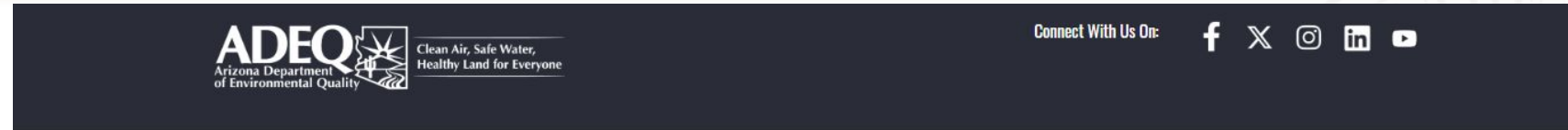
Arizona Dept of Water Resources Dam Safety Rules: [A.A.C. R15-12-1201 et seq.](#)

ADEQ email: wasterulemaking@azdeq.gov

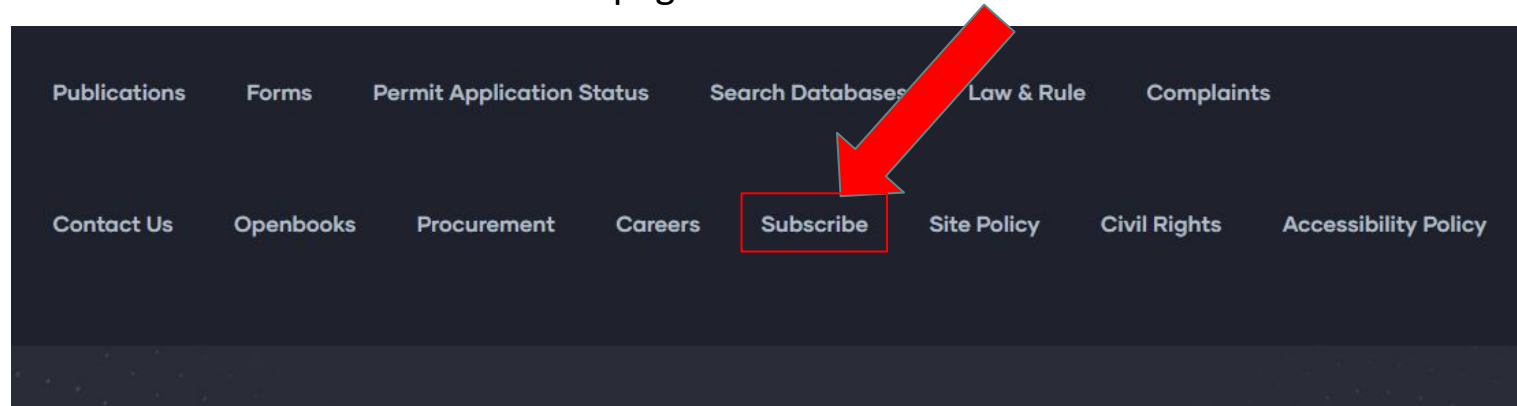


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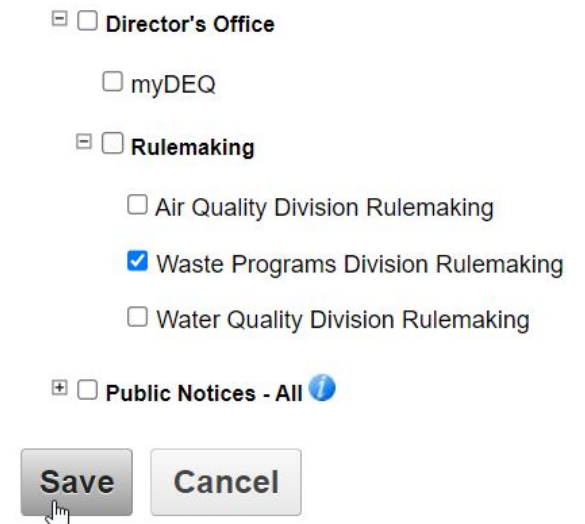
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2. Scroll down to the bottom of the webpage and click "Subscribe"



3. Enter your email and follow the prompts
4. Scroll down and click: Waste Programs Division Rulemaking and save your preferences





Comments or Questions?

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Waste Rules Email: wasterulemaking@azdeq.gov



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Healthy Land for Everyone