

Geothermal Development and the Use of Categorical Exclusions Under the National Environmental Policy Act of 1969



2014 GRC Annual Meeting

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Overview

Background

- Types of NEPA Analyses
- Types of Categorical Exclusions
- Role of Extraordinary Circumstances

Categorical Exclusions in Detail

- Use of Categorical Exclusions in Geothermal Development
- NEPA Task Force Report
- History of Bureau of Land Management (BLM) Geothermal Categorical Exclusions
- Current Categorical Exclusions for Oil & Gas and Geothermal Across Agencies
- Proposed Legislation

Standardization

- How to Standardize Across Federal Agencies
- Advantages and Challenges

Analysis

- Potential for Exploration Drilling Categorical Exclusion
- NREL Research/Review of NEPA Documents
- Case Study

Conclusions

Types of NEPA-Related Analyses

Resulting Environmental Review	Federal Action Description	Approximate Time Frame	Comments
Casual Use (CU)	Action would not ordinarily result in significant disturbance ¹ to federal lands, resources, or improvements.	<1 month	A CU does not require any NEPA analysis and usually results from the review of a notice of intent for geothermal exploration.
Determination of NEPA Adequacy (DNA)	Action that has been adequately analyzed under an existing NEPA document(s) and is in conformance with the land use plan.	1 month	Not all new proposed actions will require new environmental analysis. In some instances an existing EA or EIS may be relied upon in its entirety.
Categorical Exclusion (CX)	Action that the agency or Congress has determined does not have a significant effect on the quality of the human environment (individually or cumulatively).	2 months	A CX does not require NEPA analysis. A CX can be established administratively through agency rulemaking or legislatively through congressional action.
Environmental Assessment (EA)	Action that may significantly impact the environment.	10 months	EAs are conducted to determine whether action would significantly affect the environment. The EA process results in either a Finding of No Significant Impact (FONSI) or the preparation of an Environmental Impact Statement (EIS).
Environmental Impact Statement (EIS)	Major federal action that significantly affects the environment.	25 months	The EIS process requires public participation for all federal agencies.

Two Types of Categorical Exclusions

Administrative CX

Statutory CX

Created By

Federal agency rulemaking

Legislative process

Description

Specific activities identified by federal agencies that, based on past experience, do not have a significant effect on the environment

Specific activities identified by Congress to not have a significant effect on the environment

Notes

Must establish an administrative record and complete rulemaking process to establish new or revised CX

Can apply to multiple agencies (depending on statutory language)

Example

DOE CX for infill wells (for oil, gas, and geothermal)

EPA Act of 2005; §390 (oil and gas)

- Examining past NEPA reviews for the class of actions
- Conducting demonstration projects
- Relying on expertise, experience, and judgment of agency staff or outside experts
- Review another federal agency's experience with a CX (including administrative record developed by the agency when the CX was established)

Role of Extraordinary Circumstances (EC)

Definition Set of federal agency criteria/resource impacts which can limit the use of CXs (varies by agency).

Requirements Usually requires some level of nexus between the resource and the activity (i.e., BLM requires a “significant impact”), and the inability to modify the activity to avoid the impact.

Example Cultural/historical site and endangered species/habitat.

Effect Can require the completion of an EA or EIS even if a CX applies to the proposed activity.

Application **Administrative CX:**
ECs always apply.

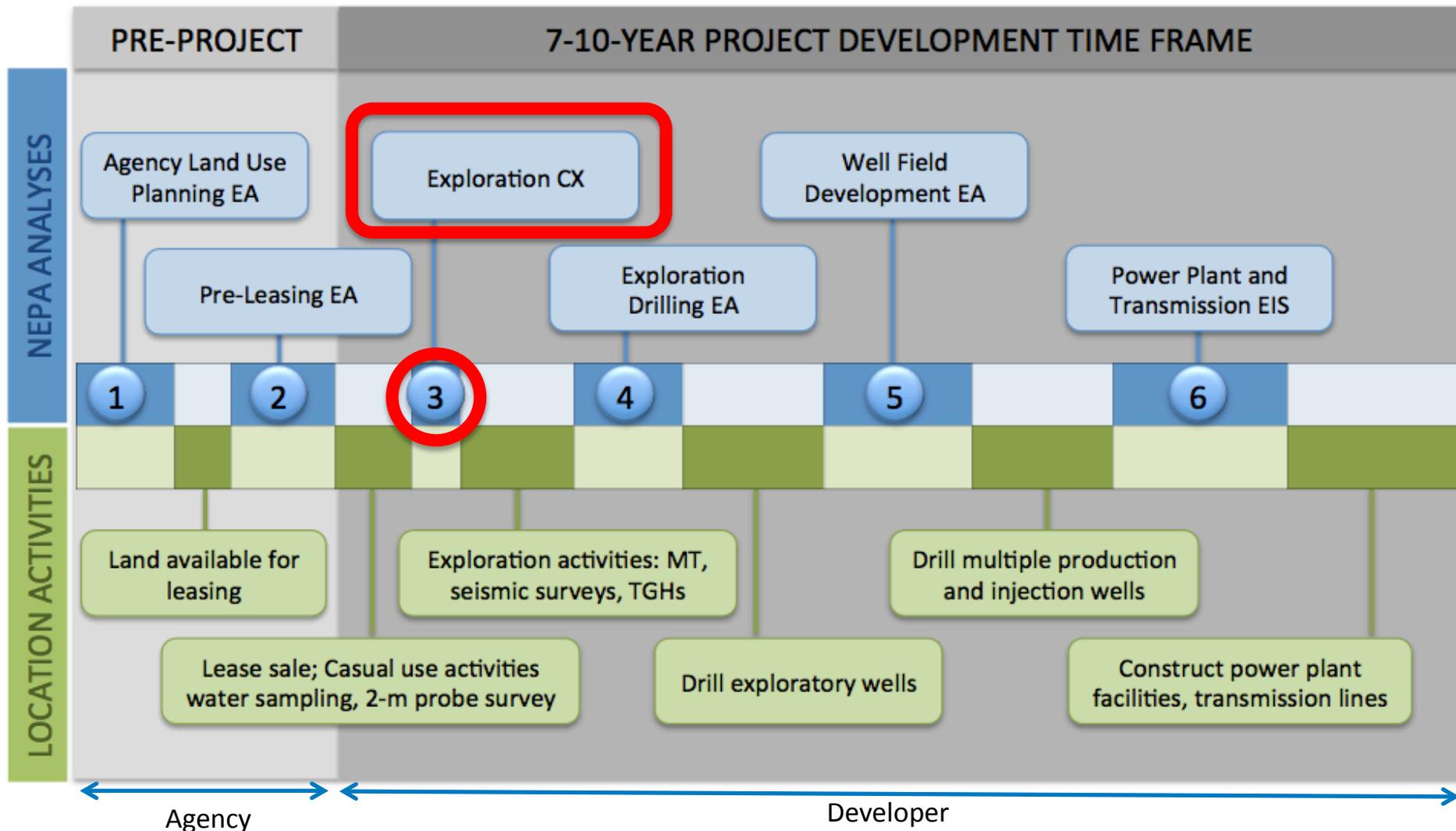
Statutory CX:
Can vary based on statute.



Fort Craig Historic Site, New Mexico
Courtesy: BLM New Mexico

The Use of Categorical Exclusions in Geothermal Development

Exploration activities (3), including geophysical activities, are commonly allowed via CX



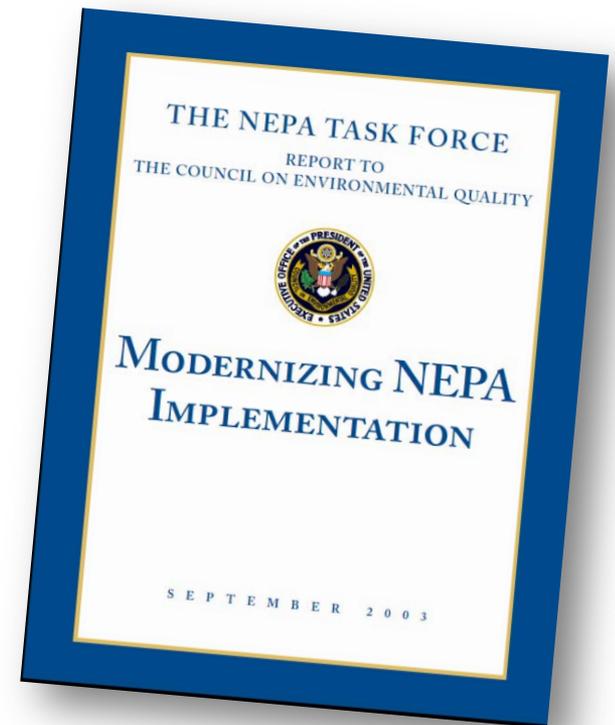
This is a graphic is for illustrative purposes only. Not all projects will go through the all of these phases, and the order may change.

Improving and Modernizing Categorical Exclusions

2003 NEPA Task Force Report to the Council on Environmental Quality (CEQ)

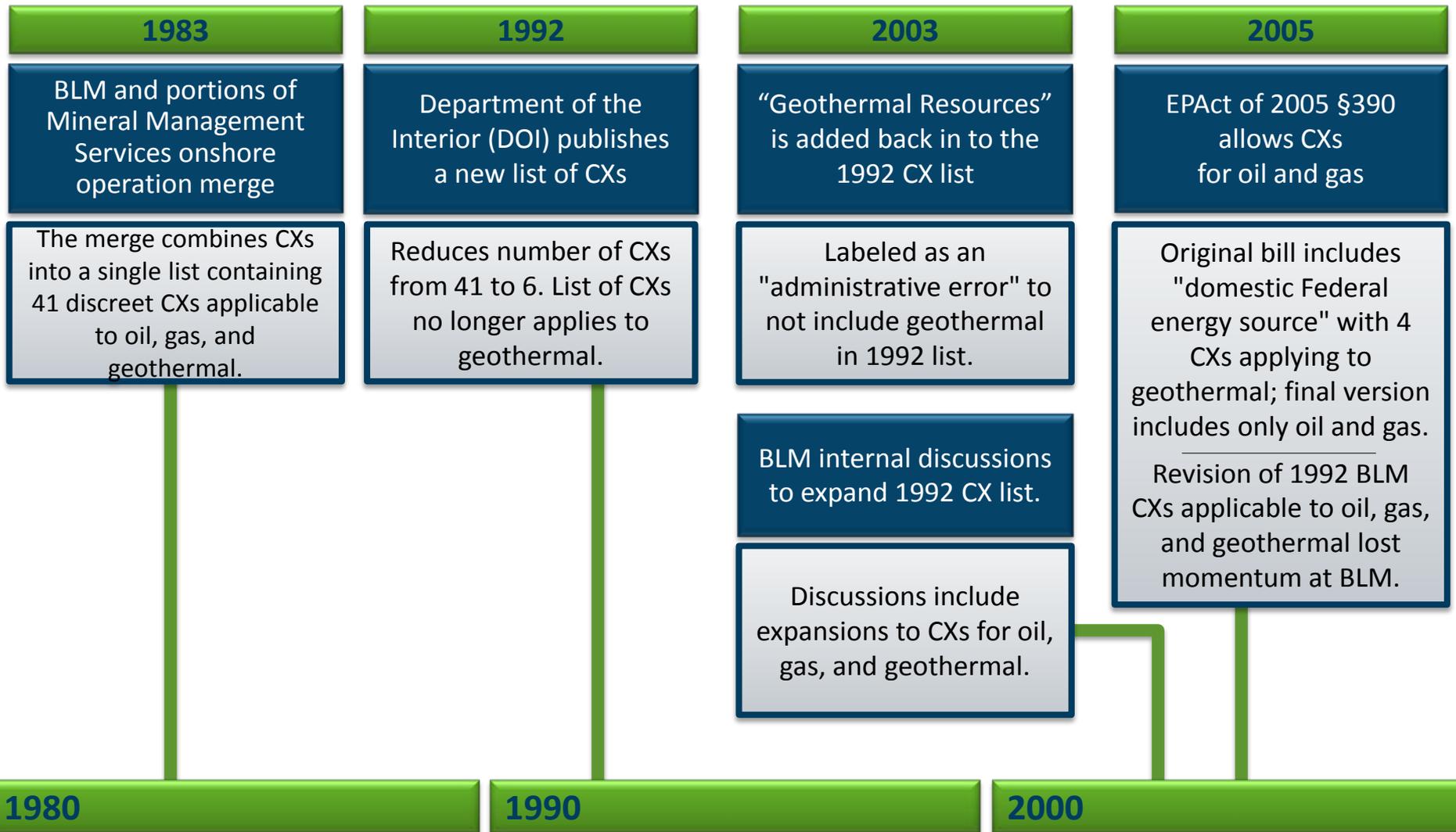
Highlighted Findings for Categorical Exclusions:

- Some federal agencies perceived CXs as difficult to develop and revise, which resulted in federal agencies continuing to prepare EAs where a CX was sufficient.
- Most agencies use information from past actions to determine whether a CX is appropriate.
- Most agencies stated that an adequate basis for developing a new CX was based on all past actions in the category resulting in a FONSI.
- “Improving and modernizing categorical exclusions should be addressed through both immediate and long-term actions.”



History of BLM's Geothermal CXs

Important Milestones for BLM Oil, Gas, and Geothermal Categorical Exclusions



Oil, Gas, and Geothermal CXs Across Federal Agencies

Activity	BLM		USFS		DOE
	Oil & Gas (O&G)	Geothermal	O&G	Geothermal	Geothermal and O&G
Agency Activities					
Land Use Planning		EIS		EIS	---
Leasing		EA/DNA		EA	---
No new roads		CX ¹		CX ³	CX ⁴
Less than 1 mile of new roads		EA/DNA ¹		CX ³	CX/EA ⁴
Drilling Permits (into the reservoir)					
Exploration wells	CX ²	EA/DNA	CX ²	CX ³ /EA	CX ⁴ /EA
Development wells	CX ²	EA/DNA	CX ²	EA/DNA ⁷	EA
Infill wells	CX ²	EA/DNA	CX ²	EA/DNA ⁷	CX ⁴
Other Activities					
Off-lease pipeline	CX ²	EA/DNA	CX ²	EA/EIS	---
Utilization/Operation	EA/EIS	EA/EIS	CX ⁶	EA/EIS	CX ^{4,5}
Minor maintenance	CX ²	EA/EIS	CX ²	EA/EIS	CX ⁴

¹ DOI Department Manual 516 DM 11 (6)

² EPA Act § 390- & BLM IM 2005-247. The use of these CXs is limited to those situations specifically addressed in EPA Act §390.

³ 36 CFR 220.6(e)(8)

⁴ Appendix B to Subpart D of 10 CFR 1021

⁵ Small facilities only

⁶ 36 CFR 220.6(e)(17) – Surface Use Plan of Operations w/ limitations

⁷ Activity permitted by the BLM on USFS-managed lands

Geothermal CX Federal Legislation

112 S. 1470: The Exploring for Geothermal Energy on Federal Lands Act

Bill sought to exclude a “geothermal exploration test project” from completing an environmental review under NEPA on lands leased by DOI.

To qualify as a “geothermal exploration test project,” bill required that the project:

- Is carried out by the lease holder;
- Causes less than one acre of soil or vegetation disruption at the location of each geothermal exploration well and not more than 5 acres during access or egress to the test site;
- Is developed no deeper than 2,500 feet;
- Is less than 8 inches in diameter;
- Is developed in a manner that does not require off-road motorized access other than to and from the well site along an identified off-road route, for which notice is provided to the Secretary of Interior;
- Is developed without construction of new roads other than upgrading of existing drainage crossings for safety purposes;
- Is developed with the use of rubber-tired digging or drilling equipment vehicles; and
- Is completed in less than 45 days, including removal of any surface instruction from the site and restoration of the site to approximately the condition that existed at the time the project began.

Standardizing CXs Across Federal Agencies

Administrative CX

- Each agency would have to:
 - ✓ develop the same CX, and
 - ✓ complete rulemaking process separately (each must develop their own justification for the CX).
- Could complete concurrently and independently or sequentially and rely on the first agency's justification for the CX when creating its own administrative record through "benchmarking."

Statutory CX

- Each chamber of Congress would have to:
 - ✓ pass the bill
- President would have to:
 - ✓ sign bill, or
 - ✓ Congress would have to override veto with a two-thirds majority vote in both chambers.
- CX would apply equally to all agencies included in the statute.

Standardizing CXs Across Federal Agencies

Administrative CX

Statutory CX

Advantages



- Provides each agency with more control when applying the CX
- Allows each agency to apply agency procedures for extraordinary circumstances
- Provides consistency among agencies without the need for agency coordination in drafting
- Could allow extraordinary circumstances

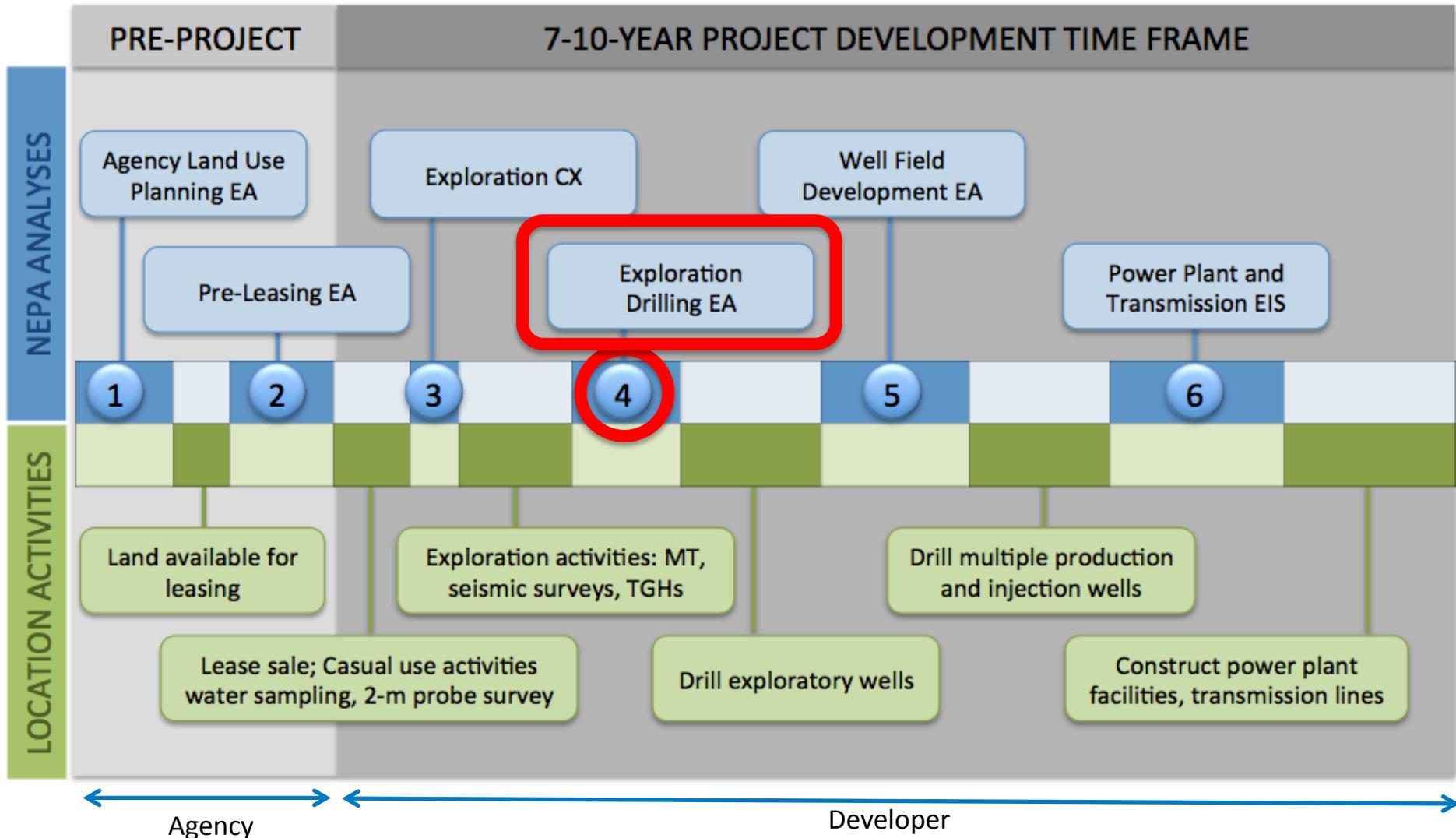
Challenges



- Coordination between agencies
- Revisions to address public comments
- Time-consuming if completed sequentially
- Limits agency control
- Legislative process is subject to prevailing political climate
 - May be difficult to pass
 - Potential for repeal

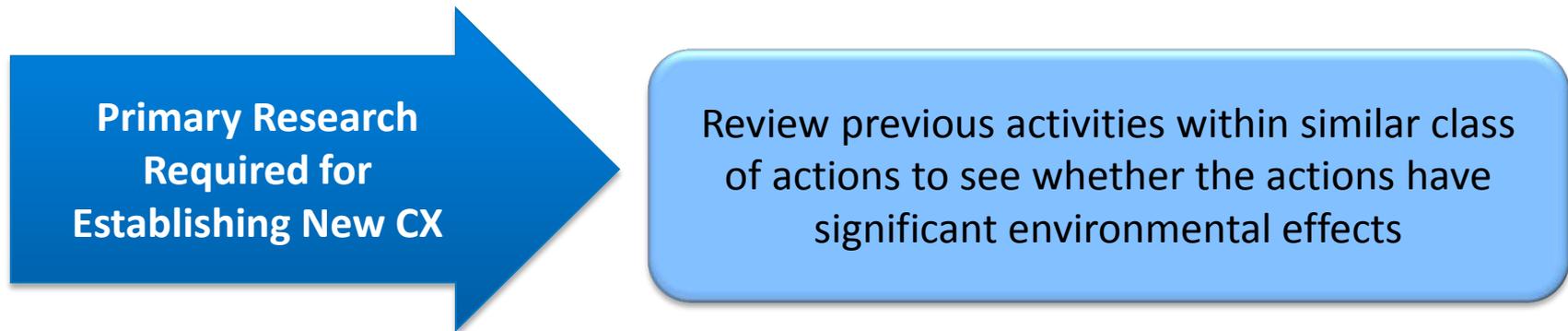
Potential for Establishing a CX for Exploration Drilling

Exploration Drilling (4) almost always requires an Environmental Assessment



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Potential for Establishing a CX for Exploration Drilling



NREL Research:

1. Searched NEPA Database (openei.org/wiki/NEPA) and produced 20 exploration drilling-related activities
 - Included a wide range of exploration drilling activities
 - ✓ TGHs, observation wells, full-sized exploration wells
 - ✓ Development of well pads and access roads
2. Reviewed EA and related FONSI documents (when available)
 - All 20 EAs resulted in FONSIs
 - All included some level of agency-required mitigation

Potential for Establishing a CX for Exploration Drilling

Example: Newberry Caldera EA

Proposed Activities

- TGHs/passive seismic monitoring wells and associated land disturbance
- Relatively shallow (2,500 to 3,500 feet)
 - Not intended to reach resource
- Well pads smaller than 100 x 100 feet
- No new road construction
- Total disturbance of less than 2.5 acres

Limited Mitigation Required

- Re-apply topsoil excavated from the site
- Monitor for noxious weeds
- Only cut trees after marked by USFS
- Archaeologist present in case of discovery of cultural items during drilling

Conclusions

1. 2003 NEPA Task Force reported CXs are under-developed
1. All EAs reviewed resulted in a FONSI
 - Federal agency personnel could consider reviewing all exploration drilling activities when considering revising or creating a new CX.
2. Projects where the well is not intended to reach resource, new disturbance is less than 5 acres, and no new road construction is required seem most likely for evaluation to see whether a CX would be appropriate because they had the least amount of impact/mitigation required.
3. This study is not intended to recommend a policy change, but to evaluate past exploration activities to see if the agency found a significant environmental impact.

THANK YOU!



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