# **2015-4 RMMLF PROC 6**

***The Foundation for Natural Resources and Energy Law Annual and Special Institutes (formerly Rocky Mountain Mineral Law Foundation Annual and Special Institutes)*  > *Special Institutes* > *2015 May (Enhanced Oil Recovery: Legal Framework for Sustainable Management of Mature Oil Fields)* > *Number 4 (Enhanced Oil Recovery: Legal Framework for Sustainable Management of Mature Oil Fields)***

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Federal public lands make up about 643 million surface acres of the 2.3 billion acre land mass of the United States. The Bureau of Land Management ("BLM") within the United States Department of the Interior manages about 247 million surface acres. The largest federal land management agency other than the BLM is the Forest Service, an agency within the United States Department of Agriculture that manages about 193 million acres of federal public lands.[[1]](#footnote-2)1 Federal real property includes federal subsurface minerals (as distinct from federal surface), including split estate federal minerals under private fee surface. The BLM manages a total of about 700 million acres of federal minerals.[[2]](#footnote-3)2 Those minerals are under surface lands managed by the BLM, under surface lands managed by the Forest Service and other federal agencies (for example, the Department of Defense), as well as about 57 million acres of split estate subsurface federal minerals under private fee surface.[[3]](#footnote-4)3

Federal public lands and minerals exist in nearly every state, but are concentrated in the thirteen western states.[[4]](#footnote-5)4 Energy and mineral development projects in the western states routinely involve federal lands and minerals because those lands and minerals are extensive and widely distributed. For example, federal lands make up 41% of New Mexico, 36% of Colorado, 42% of Wyoming, and nearly 30% of Montana.[[5]](#footnote-6)5 The 57 million acres of split estate subsurface federal minerals under private fee surface in aggregate are about the size of Kansas, but those minerals are scattered throughout the western states.[[6]](#footnote-7)6 State, tribal, and private lands are interspersed with federal lands and minerals. Significant development projects in the western states - for example ***oil*** and gas pipelines, ***oil*** and gas fields, and electric transmission lines - may involve a checkerboard of federal, state, tribal, and private lands.

Energy and mineral development on federal lands is subject primarily to federal regulation and control, as well as to state and local regulation and control to the extent federal regulation does not preempt state and local law.[[7]](#footnote-8)7 Enhanced ***oil*** recovery ("EOR") on federal lands is no different. EOR on federal lands is subject to significant federal regulation and control - primarily, but not exclusively, by the BLM - as well as to state and local regulation to the extent that regulation it is not preempted by federal law.

This paper addresses EOR development and operations on federal lands. It is not possible to cover every facet of the topic in a single paper of this length. In order to limit the scope to a manageable extent, this paper addresses EOR development on federal lands and minerals managed by the BLM, as well as on federal surface managed by the Forest Service. Regulation of EOR development and operations on lands managed by other federal surface management agencies such as the Army Corps of Engineers, National Park Service, and Bureau of Reclamation is beyond the scope of this paper. This paper addresses carbon dioxide ("CO2") EOR and does not address thermal recovery or other forms of EOR. The legal principles applicable to CO2 EOR, however, apply to other forms of EOR on federal lands.

Part I summarizes attributes of EOR development and operations that are of particular relevance to the regulation of EOR on federal lands. Part II identifies federal and state authorizations typically required for EOR on federal lands. Part III addresses federal land use plans. Part IV discusses public environmental review of EOR development under the National Environmental Policy Act ("NEPA"), a significant regulatory consequence of EOR on federal lands, as well as the NEPA provisions of the Energy Policy Act of 2005. Part V summarizes the National Historic Preservation Act ("NHPA"), a federal statute that may play a significant role in the development of pipelines and other facilities necessary for EOR operations on federal lands.

I. Scope of EOR Development and Operations

EOR development and operations differ from conventional ***oil*** and gas development in significant ways. Consider conventional ***oil*** and gas development. At the outset, when no development has occurred, little is known about the extent of future development and operations. One cannot know whether there will be a discovery in an unproven area before conducting wildcat exploration and development. If there is a discovery, it may - or may not - prove economic to produce and market the production. If it is economic, it may - or may not - be economic to develop additional wells and facilities. At least at the beginning, uncertainty and speculation characterize conventional ***oil*** and gas exploration and development.[[8]](#footnote-9)8

Conventional full field development stands at the opposite end of the spectrum, particularly in recent shale ***oil*** and gas resource plays. Full field development may involve a familiar array of development wells, gathering lines, ***oil*** tanks, compressor stations, pipelines, gas processing facilities, produced water handling infrastructure, roads, and other production and operations facilities.

Conventional full field development often involves the development of undeveloped lands. In that sense, conventional full field development is often "greenfields" rather than socalled "brownfields" development because it usually occurs outside the footprint of existing ***oil*** and gas development. That aspect of conventional ***oil*** and gas development may be the source of significant environmental, social, and political issues and even controversy.

EOR development and operations are neither wildcat exploration nor conventional full field development, and EOR does not fit neatly anywhere along that spectrum. EOR is simply different in kind and degree from conventional ***oil*** and gas development for purposes of federal regulation of EOR on federal lands. Differences that should be taken into account in the regulation of EOR on federal lands include: the components of EOR that do not exist with conventional development; the CO2 source and pipeline infrastructure; the tendency of much EOR development and operations to occur within the existing footprint of prior development and to make use of existing infrastructure; and phased EOR development plans.

EOR Components. EOR development and operations have additional components when compared to conventional ***oil*** and gas development during the primary recovery phase. Those parts must move together in concert, and may require coordinated authorizations. Of course EOR typically relies upon the infrastructure and facilities associated with conventional ***oil*** and gas development during the primary recovery phase. That means: development wells, gathering lines, flow lines, produced water handling facilities, ***oil*** tanks and storage facilities, compressor stations, pipelines, and other production and operation facilities. But CO2 EOR development and operations entail a range of additional facilities and infrastructure: CO2 injection lines, CO2 injection wells, CO2 separation facilities, CO2 flow lines, subsurface CO2 monitoring wells, and of course, a CO2 source. Regulation of EOR on federal lands requires consideration and authorization of all elements of the development and operations plan, no small task. Nor are those components typically speculative. The multiple components of EOR development and operations are usually known and foreseeable at the outset; it is not speculative that a CO2 source is necessary to conduct CO2 EOR. It is not speculative that a pipeline may be necessary to deliver CO2 from a source many hundreds of miles to the target field.

CO2 Source. CO2 EOR requires a CO2 source, either natural or anthropogenic, meaning generated or captured in an industrial process. A natural CO2 source may be a subsurface CO2 reservoir that may be produced through ***oil*** and gas production wells that produce predominately CO2 rather than hydrocarbon natural gas.[[9]](#footnote-10)9 An industrial CO2 source may be a processing plant that separates CO2 from a mixed hydrocarbon natural gas stream at a point proximate to producing ***oil*** and gas wells. Coal-fired power plants offer a significant potential source of industrial CO2 for EOR. Post-combustion capture and compression systems have the potential to capture significant volumes of CO2 from the emissions of burning coal.[[10]](#footnote-11)10 Another potential industrial CO2 source are coal-to-liquids facilities that use gasification and liquefaction processes to convert coal into liquid fuels.[[11]](#footnote-12)11

CO2 Pipeline. An attribute of EOR operations with obvious regulatory consequence is the distance between the CO2 source and the EOR site, and the pipeline and compressor infrastructure necessary to deliver the CO2 to the EOR site. A pipeline of a hundred miles or more may be required with supporting rights-of-way and other infrastructure.[[12]](#footnote-13)12 Details about the CO2 source - for example how the CO2 will be separated from a natural gas production stream at a processing plant, details about the plant itself, and the pipeline that will transport the CO2 to the ***oil*** field - may be subject to federal review in the regulation of EOR on federal lands even though that source may be hundreds of miles away from the target ***oil*** field.

EOR Within Footprint of Existing Development. A significant contrast to conventional ***oil*** and gas development is that much — but not all - EOR development and operations may occur within the footprint of a developed ***oil*** and gas field, for example an ***oil*** field after primary and secondary recovery operations. The obvious exception to that general rule is the CO2 source and pipeline and other infrastructure that are necessary to deliver the CO2 to the target ***oil*** field, all of which may be newly proposed elements of an EOR development plan. But the infield EOR development and operations may make use of existing infrastructure and facilities developed during the primary recovery phase: well sites, well pads, well bores, access roads, produced water handling facilities, flow lines, compressors, ***oil*** tanks, and other facilities. This attribute of EOR on federal lands means that from the point of view of obtaining a "social license" to implement a particular EOR development plan - what it takes to gain acceptance and even support by citizens, affected interests, and even regulators - EOR may be positioned more favorably than, for example, some experiences with shale gas development.[[13]](#footnote-14)13 EOR may yield less additional actual or perceived environmental impacts than may exist with some full field shale gas development proposals. The positive "brownfields" attributes of EOR development plans should be taken into account at the regulatory application and authorization stage.

Phased EOR Development and Operations. EOR development and operations may proceed over the course of years or decades, and may involve scores, hundreds, or even thousands of injection and production wells in one or more ***oil*** fields. Not all EOR development occurs at once; development and operations may proceed in phases. Future potential phases may be identified at any point in the execution of EOR development plans. But not all phases are necessarily concrete and foreseeable; economic and other considerations may make it uncertain whether future phases will ever be proposed or implemented. The potential for multiple phases of CO2 EOR in a particular ***oil*** field or fields should be considered at the application and regulatory authorization stage, including under the National Environmental Policy Act as identified elsewhere in this paper.

II. Authorizations for EOR Development and Operations on Federal Land

EOR development and operations on federal lands and federal minerals may be subject to multiple federal, state, and local regulatory programs, and require multiple authorizations. The applicant, regulator, or other interested party should consider the entire EOR development and operations plan so as to identify the applicable regulatory requirements and the necessary authorizations. It is better to be exhaustive, exacting, and comprehensive at the outset so as to avoid unnecessarily piecemeal applications, lost time, and surprises. A careful analysis should include consideration of all components of the EOR development and operations, including on lease, off lease, the CO2 source, the pipeline, and other applicable requirements.

A. On Lease EOR Development and Operations

Much EOR development and operations in the target ***oil*** field occurs on lease. For purposes of this paper, on lease development means within the premises of a federal ***oil*** and gas lease. On lease EOR activities may include CO2 injection wells, CO2 flow lines, production wells, gathering lines, flow lines, CO2 recycling facilities and lines, water handling facilities, ***oil*** tanks, compressors, roads and other production and operations facilities commonly found in an ***oil*** and gas field. To the extent that those EOR components occur within the leased premises of a federal ***oil*** and gas lease, the BLM may authorize them (subject to other applicable regulatory requirements) pursuant to the lease terms and the federal laws and regulations applicable to ***oil*** and gas development on federal lands. The BLM may also authorize a federal ***oil*** and gas lessee to produce CO2 from a naturally-occurring subsurface CO2 deposit, or CO2 in a mixed hydrocarbon natural gas stream, under the terms of a federal ***oil*** and gas lease and associated laws and regulations.[[14]](#footnote-15)14

The BLM administers a comprehensive program to regulate ***oil*** and gas leasing, development and operations on federal BLM surface lands and federal subsurface minerals.[[15]](#footnote-16)15 Onshore Order No. 1 provides a detailed summary of the permitting requirements to develop and operate ***oil*** and gas wells on federal lands and federal minerals under a federal ***oil*** and gas lease.[[16]](#footnote-17)16 The provisions of Onshore Order No. 1 apply to EOR development on a federal ***oil*** and gas lease - for example the application for permit to drill or "APD" provisions apply to the development of CO2 production wells, CO2 injection wells, and EOR production wells. Onshore Order No. 1 also spells out the BLM's role in overseeing and authorizing development of federal subsurface minerals under federal surface managed by the Forest Service, and split estate federal subsurface minerals under private fee surface.[[17]](#footnote-18)17

On lease EOR development and operations of federal subsurface minerals under federal surface managed by the Forest Service is, like other ***oil*** and gas development on National Forest System lands, subject to a statute that requires prior Forest Service approval under the agency's surface management regulations and program.[[18]](#footnote-19)18

EOR on federal lands commonly occurs on federal ***oil*** and gas leases within a federal unit. Federal leases may be unitized under the Mineral Leasing Act, and EOR on committed leases may occur pursuant to the terms of a federal unit agreement authorized by the BLM.[[19]](#footnote-20)19 BLM policy allows for federal EOR units,[[20]](#footnote-21)20 and the agency has authorized them.[[21]](#footnote-22)21 The Tenth Circuit Court of Appeals issued a 2014 decision that recognized (under the specific facts of the case) that a unit operator has extensive surface use rights on all committed federal ***oil*** and gas leases without regard to lease lines, even over the objection of an uncommitted fee surface owner whose surface overlies committed federal split estate minerals.[[22]](#footnote-23)22 The scope of the Tenth Circuit's ruling has the potential to materially benefit an EOR unit operator in siting and administering surface facilities and infrastructure on committed federal leases.

B. Off Lease EOR Development and Operations

Significant components of EOR on federal lands likely exist off lease or outside unit boundaries. Those components may include: the CO2 source, associated infrastructure, and a pipeline to deliver the CO2 to the target ***oil*** field.

The BLM typically authorizes those off lease components of EOR development and operations pursuant to one of two federal authorizations: a right-of-way issued by the BLM under the Mineral Leasing Act,[[23]](#footnote-24)23 or a right-of-way issued by the BLM under the Federal Land Policy Management Act ("FLPMA").[[24]](#footnote-25)24

For purposes of CO2 EOR, a Mineral Leasing Act right-of-way is generally appropriate for a pipeline to transport CO2 considered to be "natural gas" because it is naturally occurring (for example because it is produced from an ***oil*** and gas well), while a FLPMA right-of-way is generally appropriate for a pipeline to transport CO2 from an industrial or anthropogenic source (for example CO2 captured from the emissions at a coal-fired power plant). Although a Mineral Leasing Act right-of-way may only be obtained for "pipeline purposes" (including related necessary infrastructure), a FLPMA right-of-way may be obtained for a pipeline (so long as it is not "natural gas") and a wide variety of other infrastructure, for example a processing plant, injection wells, roads, other facilities outside a federal ***oil*** and gas lease and most broadly, "other systems or facilities which are in the public interest."[[25]](#footnote-26)25

1. Mineral Leasing Act Right-of-Way.

The Mineral Leasing Act authorizes the BLM to grant rights-of-way across federal lands for "pipeline purposes for the transportation of ***oil***, natural gas, synthetic liquid or gaseous fuels, or any refined product produced therefrom . . . ."[[26]](#footnote-27)26 The statutory language provides for a right-of-way for "pipeline purposes;" it does not describe infrastructure that may not be ancillary to "pipeline purposes." The BLM implementing regulations allow a Mineral Leasing Act right-of-way for a broad array of "related facilities" to a pipeline that "may or may not be connected or contiguous to the pipeline" provided "the substantially continuous use of which is necessary for the operation or maintenance" of the pipeline including airstrips, roads, campsites, pump stations, surge and storage tanks, bridges, monitoring and communications stations, and structures for storing supplies and equipment.[[27]](#footnote-28)27

A Mineral Leasing Act right-of-way may be issued on "any federal lands" which includes BLM lands, Forest Service lands, and "all lands owned by the United States" except lands within the National Park System, Indian trust lands, and lands in the Outer Continental Shelf.[[28]](#footnote-29)28

2. Federal Land Policy Management Act Right-of-Way.

The BLM may issue a FLPMA right-of-way for most every type of infrastructure not covered by the Mineral Leasing Act.[[29]](#footnote-30)29 That includes rights-of-way for "pipelines and other systems for the transportation or distribution of liquids and gasses, other than water and *other than* ***oil***, natural gas, synthetic liquid or gaseous fuels, or any refined product produced therefrom . . . ."[[30]](#footnote-31)30 Note that this statutory language does not overlap with the Mineral Leasing Act right-of-way provision. The language of the Mineral Leasing Act provides for a pipeline right of way for, as pertinent to CO2 EOR, "natural gas"; the language of FLPMA provides for a pipeline right-of-way for liquids and gasses "other than ... natural gas."[[31]](#footnote-32)31

A FLPMA right-of-way may be obtained for a spectrum of specific and general infrastructure and facilities, including slurry and emulsion systems, radio transmission systems, electric transmission lines, roads, trails, highways and, most broadly as relevant to EOR, "such other necessary transportation or other systems or facilities which are in the public interest."[[32]](#footnote-33)32

3. Comparison of Mineral Leasing Act and Federal Land Policy Management Act Right-of-Ways

There are differences between a Mineral Leasing Act right-of-way and a FLPMA right-ofway, the most significant of which is that the Mineral Leasing Act requires pipelines to operate as "common carriers" (see below for discussion of this issue) while FLPMA does not. Other differences include:

| **Issue** | **MLA Right-of-Way** |
| --- | --- |
| EOR Purpose | May be used for a pipeline for CO2 |
|  | that is "natural gas" or naturally |
|  | occurring in origin, and related |
|  | facilities "necessary for the operation |
|  | or maintenance of the pipeline." *See* |
|  | 43 C.F.R. § 2881.5(b); 30 U.S.C. |
|  | § 185(a); *Exxon Corp. v. Lujan*, 970 |
|  | F.2d 757, 763 (10th Cir. 1992). |
| Term | Maximum of 30 years, renewable if |
|  | operated in accordance with law and |
|  | permit terms. *See* 30 U.S.C. § 185(n); |
|  | 43 C.F.R § 2881.1-1(e)-(f). |
| Width of ROW | Generally limited to 50'. *See* 30 |
|  | U.S.C. § 185(d). |
|  |  |
|  |  |
| Pipe Size | Limited to 24" unless notice and |
|  | detailed findings are submitted to |
|  | Congressional committees. See 30 |
|  | U.S.C. § 185(w)(2). |
| Operation as a | Required. |
| Common |  |
| Carrier |  |

| **Issue** | **FLPMA Right-of-Way** |
| --- | --- |
| EOR Purpose | May be used for a pipeline for CO2 |
|  | that is anthropogenic or industrial in |
|  | origin, and a broad array of EOR |
|  | infrastructure, including "other |
|  | systems or facilities" in the public |
|  | interest. 43 U.S.C. § 1761(a). |
|  |  |
|  |  |
| Term | No standard term - term must be |
|  | "reasonable" based on the |
|  | circumstances. *See* 43 |
|  | U.S.C.§ 1764(b). |
| Width of ROW | No standard width - limited to area |
|  | necessary for operation of the |
|  | pipeline and protection of public |
|  | safety. *See* 43 U.S.C. § 1764(a). |
| Pipe Size | No size limitation. |
|  |  |
|  |  |
|  |  |
| Operation as a | Not required - although BLM has the |
| Common | discretion to impose as a condition of |
| Carrier | approval. |

4. A Mineral Leasing Act Right-of-Way Applies to Natural Occurring CO2; a Federal Land Policy Management Act Right-of-Way Applies to Anthropogenic or Industrial CO2

A significant difference between the two species of right-of-ways for EOR purposes is that a Mineral Leasing Act right-of-way is appropriate for naturally occurring CO2, for example CO2 captured from a mixed natural gas stream. A FLPMA right-of-way, on the other hand, is appropriate for CO2 obtained in industrial or other anthropogenic process, for example CO2 captured from emissions at a coal-fired power plant. This distinction flows from the language of the two statutes, the Department of the Interior's interpretation of those statutes, and from an influential Tenth Circuit Court of Appeals decision involving CO2 EOR.

In the late 1980s Exxon Corporation ("Exxon") applied for a FLPMA right-of-way for a pipeline to transport CO2 from the Shute Creek processing plant in Wyoming to ***oil*** fields for use in EOR. The Shute Creek plant separated "sour" natural gas produced from wells on federal ***oil*** and gas leases into its various components. The BLM declined to grant Exxon a FLPMA right-of-way for the CO2 pipeline, instead granting Exxon a Mineral Leasing Act right-of-way. Exxon challenged the use of the Mineral Leasing Act right-of-way because it subjected the pipeline to common carrier requirements.

Exxon argued that the use of an MLA right-of-way to authorize the CO2 pipeline was improper because "carbon dioxide, a noncombustible gas, is distinguishable from natural gas, which latter substance is a proper subject of a right-of-way under section 28 of the MLA."[[33]](#footnote-34)33 Exxon contended that "natural gas" was a term of art that referred only to combustible hydrocarbon gases.[[34]](#footnote-35)34 The Interior Board of Land Appeals ("IBLA"), an adjudicatory body within the Department of the Interior, disagreed and held that the phrase "natural gas" in the MLA referred to "gasses produced from ***oil*** and gas leases" as opposed to "artificial or manufactured gas."[[35]](#footnote-36)35 Because the CO2 at issue was separated from naturally occurring gas produced from the ground through a well, the IBLA held that the CO2 was a "natural gas" and the MLA, and not the FLPMA, was the proper mechanism for approving the right-of-way.[[36]](#footnote-37)36

The United States Court of Appeals for the Tenth Circuit ultimately upheld the "natural" vs. "artificial or manufactured" gas distinction adopted by the IBLA. The court determined that the phrase "natural gas" was ambiguous, the BLM's interpretation of the phrase was permissible under *Chevron USA Inc., v. Natural Resources Defense Council*,[[37]](#footnote-38)37 and an MLA right-of-way was an acceptable mechanism for authorizing "pipelines carrying naturally-occurring carbon dioxide."[[38]](#footnote-39)38 The court recognized that the consequence of its decision was to impose a common carrier obligation on pipelines carrying naturally occurring carbon dioxide while not imposing the same obligation on pipelines carrying "artificial carbon dioxide."[[39]](#footnote-40)39 The court recognized that this could create "perverse incentives" to produce artificial carbon dioxide, but held that the resolution of such a dilemma was "more appropriately left to the agency."[[40]](#footnote-41)40

The effect of the *Exxon* decision is that the BLM will likely authorize CO2 pipelines carrying "naturally-occurring" CO2 with a Mineral Leasing Act right-of-way, while the BLM will authorize those carrying "artificial" or "manufactured" CO2 with a FLPMA right-of-way. Given the language of the applicable statutes and the *Exxon* decision, the BLM will likely use a Mineral Leasing Act right-of-way to authorize a pipeline right-of-way on federal lands for the transportation of CO2 produced from a subsurface CO2 formation, or CO2 separated from a mixed natural gas stream at a processing plant. The BLM may reach a different outcome with anthropogenic or industrial CO2 obtained with post-combustion capture technology at a coalfired power plant, or at a coal-to-liquids facility. There is a compelling argument, under the logic of the *Exxon* decision, that such CO2 is not "natural gas" within the meaning of the Mineral Leasing Act because it is not, in the observation of the Tenth Circuit, "naturally occurring."[[41]](#footnote-42)41 Industrial or anthropogenic CO2 is produced in an engineered chemical process, not captured from "natural gas."

The careful administrative lawyer should note that the Tenth Circuit did not rule that the "naturally occurring" versus "artificial" distinction is the only permissible result under the Mineral Leasing Act and FLPMA; the court instead upheld the agency's construction of ambiguous statutory language under *Chevron*.[[42]](#footnote-43)42 That means that notwithstanding the outcome of the *Exxon* case, the Department of the Interior has the authority to interpret the statutes differently than identified in *Exxon* so long as the agency's construction is reasonable under the *Chevron* test.[[43]](#footnote-44)43

5. Common Carrier Requirements for Mineral Leasing Act and Federal Land Policy Management Act Right-of-Ways

The Mineral Leasing Act provides: "Pipelines and related facilities authorized under this section *shall be* constructed, operated, and maintained as common carriers."[[44]](#footnote-45)44 The Mineral Leasing Act grants the BLM no discretion in this regard. Unlike the Mineral Leasing Act, the FLPMA contains no common carrier requirement. But the BLM may, in certain circumstances and in its discretion, impose common carrier requirements as a condition of approval of a FLPMA right-of-way.[[45]](#footnote-46)45

The Mineral Leasing Act, and the implementing regulations, provide some detail about the scope of the common carrier obligations.

Prohibition on Discrimination. The Mineral Leasing Act provides that: "The owners or operators of pipelines subject to this section shall accept, convey, transport, or purchase without discrimination all ***oil*** or gas delivered to the pipeline without regard to whether such ***oil*** or gas was produced on Federal or non-Federal lands."[[46]](#footnote-47)46

BLM Authority to Determine Proportionate Amounts Conveyed From Federal Lands. The Mineral Leasing Act provides that: "In the case of ***oil*** or gas produced from Federal lands . . . the Secretary may . . . determine the proportionate amounts to be accepted, conveyed, transported or purchased."[[47]](#footnote-48)47

Filing of Rate Schedules. Regulations implementing the Mineral Leasing Act provide that a pipeline operator must "file rate schedules and tariffs for ***oil*** and gas, or derivative products, transported by the pipeline as a common carrier with the agency BLM prescribes, and provide BLM proof that you made the required filing."[[48]](#footnote-49)48 There appears to be no federal or state regulatory body that exercises authority to set rates for CO2 pipelines.[[49]](#footnote-50)49 It is not clear how this requirement would be imposed with CO2 EOR.

Submission of Information with Application. Before the BLM will review an application for a Mineral Leasing Act right-of-way, the applicant must submit certain information demonstrating that the pipeline will be operated as a common carrier.[[50]](#footnote-51)50

Enforcement. If the BLM has reason to believe that a pipeline is not being operated as a common carrier, the BLM may "request the Attorney General to prosecute an appropriate proceeding" in front of the appropriate administrative body (for instance, the Federal Energy Regulatory Commission) or in U.S. District Court.[[51]](#footnote-52)51 The BLM may also suspend or terminate the right-of-way authorization for non-compliance with the common carrier requirements.[[52]](#footnote-53)52

C. Other Regulatory Requirements

EOR development and operations on federal lands are subject to additional federal and state regulatory requirements. Three major regulatory regimes applicable to EOR on federal lands are: federal land use plans under FLPMA (for the BLM) and under the National Forest Management Act (for the Forest Service), the public environmental review requirements of the National Environmental Policy Act, and the procedures and mandates set forth in the National Historic Preservation Act. Those topics are addressed, respectively, in Parts III, IV, and V. A partial summary of other significant regulatory regimes commonly involved in EOR on federal lands includes the following.

1. Safe Drinking Water Act

The Safe Drinking Water Act is the main federal law that ensures the quality of drinking water.[[53]](#footnote-54)53 It applies to ***oil*** and gas development through the Underground Injection Control ("UIC") program under which the Environmental Protection Agency ("EPA") or a state with an approved program regulates the injection of fluids underground, including the injection of produced water from ***oil*** and gas operations,[[54]](#footnote-55)54 as well as the subsurface injection of CO2 for EOR. An operator seeking to inject CO2 in an injection well for EOR must obtain a UIC permit from the EPA or state.[[55]](#footnote-56)55

2. Clean Water Act

EOR operations may yield produced water which may require handling or disposal, an activity that may be subject to the Clean Water Act. The Clean Water Act is the nation's principal federal charter for the protection of surface water quality.[[56]](#footnote-57)56 Section 402 of the Act requires a permit for the discharge of a pollutant from a point source into waters of the United States.[[57]](#footnote-58)57 The Section 402 permitting program - known as the National Pollutant Discharge Elimination System program ("NPDES") - is administered by the EPA and by states with approved programs.[[58]](#footnote-59)58 The Clean Water Act prohibits the discharge from a point source of ***oil*** and gas produced water into a surface water unless the discharger obtains and complies with a properly issued NPDES permit.[[59]](#footnote-60)59

EOR development actions may be subject to the so-called "wetlands" program under Section 404 of the Clean Water Act. CO2 pipelines, roads, structures, or other facilities that cross wetlands or waters of the United States may be subject to Section 404 of the Act. That statute requires a permit for the discharge of dredge or fill material from a point source into waters of the United States. The Army Corps of Engineers administers the Section 404 program, although a few states are authorized to administer Section 404 within their borders.[[60]](#footnote-61)60

3. Clean Air Act

The Clean Air Act regulates air pollution from mobile and stationary sources.[[61]](#footnote-62)61 The EPA, or states with approved programs, administer the Clean Air Act, a complex federal regulatory program. Depending on the facts and the jurisdiction at issue, the Clean Air Act may have application to air emissions from ***oil*** and gas drilling rigs, generators, compressors, and other equipment that may be involved in EOR development or operations.[[62]](#footnote-63)62

4. Endangered Species Act

Federal authorizations of EOR development and operations on federal lands are subject to the provisions of the Endangered Species Act, in particular the obligation of a federal agency to consult with the U.S. Fish and Wildlife Service prior to authorizing action that may affect a listed species or designated critical habitat that may be present in the project area.[[63]](#footnote-64)63 The Act further prohibits the "take" of a listed species or designated critical habitat; transgression of that broad command may give rise to significant penalties.[[64]](#footnote-65)64 The EOR applicant, BLM, other federal agency, or interested party may avoid adverse consequences under the Act by ensuring that the procedural and substantive commands of the statute are fulfilled, for example, if applicable, by obtaining and adhering to the terms of an incidental take statement issued by the Fish and Wildlife Service at the completion of the consultation process under Section 7 of the Act.[[65]](#footnote-66)65 The incidental take statement insulates the BLM, other involved federal agencies, and the private applicant from liability under the Act so long as the terms of the statement are adhered to.[[66]](#footnote-67)66

5. Other Wildlife Regulation

The Endangered Species Act does not define the limits of wildlife regulation on federal lands. ***Oil*** and gas and EOR development projects routinely present issues about wildlife species that are not listed under or regulated by the Endangered Species Act but, nonetheless, are the subject of conditions of approval or mitigation measures in permitting decisions. The BLM and other agencies regulate those "non-listed" species at the project level.[[67]](#footnote-68)67 Common topics of wildlife regulation and concern in energy development on federal lands include migratory birds and raptors[[68]](#footnote-69)68 and other animals that, although not listed for purposes of the Endangered Species Act, are given "special status" by the BLM, Forest Service, or other agencies.[[69]](#footnote-70)69

6. State ***Oil*** and Gas Commission Regulation

State and local law applies to mineral development on federal lands unless it is preempted by federal law.[[70]](#footnote-71)70 The practical consequence for ***oil*** and gas development (including EOR) is that state ***oil*** and gas commission rules, regulations, and authority generally apply on federal lands unless the United States preempts that authority.[[71]](#footnote-72)71 That is the position of the BLM in Onshore Order No. 1.[[72]](#footnote-73)72 State spacing rules, notice, APD requirements, and other provisions typically apply to EOR development and operations on federal lands unless the BLM affirmatively decides to displace those state rules.[[73]](#footnote-74)73

III. Federal Land Use Plans

Federal land use plans play a major role in any energy development project on federal lands, including EOR. Simply put, any activity that the BLM authorizes on surface lands it manages, and any activity that the Forest Service permits on National Forest System lands, must comply with the applicable federal land use plan.[[74]](#footnote-75)74 The BLM and Forest Service treat their respective plans as foundational documents that identify what is and is not permissible on particular lands. Federal land use plans provide for a spectrum of uses of public lands. The plans make lands available for certain uses (for example, wildlife habitat) and off limits to others (for example, ***oil*** and gas development) in zoning-type land management allocations or designations. The land use plans identify terms, conditions, and mitigation measures that the agencies incorporate and rely upon in making site-specific authorizations, for example a decision to issue a pipeline right-of-way. Federal land use plans have the potential to allow for EOR development and operations, as well as the potential to give rise to obstacles. The applicable federal land use plans merit close scrutiny in considering and planning EOR development projects on federal lands.

Under the Federal Land Policy Management Act ("FLPMA") and the National Forest Management Act ("NFMA"), respectively, the BLM and the Forest Service each prepare programmatic land use plans for lands under each agency's jurisdiction. The agencies prepare (and periodically revise) a land use plan in a public environmental review process under the National Environmental Policy Act based on an environmental impact statement and with public notice and opportunities for comment.[[75]](#footnote-76)75 The environmental impact statement prepared for a federal land use plan may be useful in the preparation of project-level NEPA documents as a source for tiering.[[76]](#footnote-77)76 The plans apply for fifteen years or more, until amended or revised. A federal land use plan may apply to hundreds of thousands or millions of acres of land.

The BLM prepares a resource management plan or "RMP" for one or more BLM Field Offices in accord with FLPMA and the agency's land use planning regulations.[[77]](#footnote-78)77 The Forest Service prepares a land and resource management plan or "Forest Plan" for one or more National Forests or National Grasslands pursuant to NFMA and the agency's forest planning regulations.[[78]](#footnote-79)78

Federal land use plans identify agency goals and objectives, which may be considered in identifying the purpose and need of future actions to implement the plan. The plans are programmatic, meaning they set forth land management allocations and designations and conditions for approval and mitigation measures for future actions, but do not typically authorize site-specific action.[[79]](#footnote-80)79 The agencies look to the plans in considering development applications from private entities, and use them to authorize (or deny) site-specific actions.

As a practical matter, an authorized action must be permissible within the land management designation or allowed uses identified in the plan.[[80]](#footnote-81)80 The terms of a BLM or Forest Service decision or authorization must incorporate conditions of approval and mitigation measures from the plan, and such other terms as are necessary to ensure conformity or consistency with the plan.[[81]](#footnote-82)81

What then if the applicable plan does not allow for a contemplated use, for example a pipeline right-of-way or gas processing plant in a particular location? The agency may deny the request for authorization, or the agency may amend the land use plan to permit the use to occur in accordance with the procedures identified in the pertinent regulations.[[82]](#footnote-83)82 By land use plan amendment, the BLM or Forest Service may render a decision that may not conform to a land use plan consistent with the applicable plan.[[83]](#footnote-84)83

A third party with standing may bring a litigation challenge to set aside a decision by the BLM or Forest Service authorizing EOR development and operations on federal lands on the grounds the decision is not consistent with the applicable plan. Such a suit is typically filed as a complaint in United States District Court for judicial review of final agency action under the Administrative Procedure Act.[[84]](#footnote-85)84 In such an action, the plaintiff may seek judicial review of the agency's compliance with the terms of the applicable land use plan in authorizing action.[[85]](#footnote-86)85 That possibility is one reason that EOR proponents, government agencies, and interested parties should review federal land use plans in evaluating EOR plans and authorizations.

IV. The National Environmental Policy Act

The National Environmental Policy Act of 1969 requires federal agencies to consider the effects of their proposed actions as well as reasonable alternatives in an environmental assessment or environmental impact statement.[[86]](#footnote-87)86 NEPA is triggered by a proposal for "major federal action," which includes actions "with effects that may be major and which are potentially subject to Federal control and responsibility."[[87]](#footnote-88)87 Actions proposed by private entities amount to federal actions subject to NEPA if "federal approval is the prerequisite to the action taken by the private actors."[[88]](#footnote-89)88

Virtually every EOR proposal involving federal lands or federal minerals (including the development of split estate federal minerals under fee surface) that requires approval from a federal agency will be subject to review under NEPA. Common NEPA triggers encountered in federal lands EOR development include: (1) approval of an Application for Permit to Drill (APD);[[89]](#footnote-90)89 (2) BLM or Forest Service approval of a surface use plan of operations[[90]](#footnote-91)90 ; and (3) BLM or Forest Service approval of a right of way for pipelines or other facilities.[[91]](#footnote-92)91

If a proposed action triggers NEPA, federal agencies generally undertake a three-tier analysis. First, if the proposed action is one that the agency or Congress has previously determined will not individually or collectively have significant impacts, the proposed action may fall within a categorical exclusion ("CE"). Actions subject to a CE are exempt from further NEPA analysis.[[92]](#footnote-93)92 Certain federal ***oil*** and gas development activities are categorically excluded from review under NEPA by statute.[[93]](#footnote-94)93

Second, if the action is not categorically excluded, and if it is not one that normally requires the preparation of an EIS, an agency may complete a less detailed environmental assessment ("EA") to determine whether preparation of an EIS is required.[[94]](#footnote-95)94 If the agency concludes in the EA that the proposed action will not significantly affect the environment, the agency may issue a finding of no significant impact ("FONSI").[[95]](#footnote-96)95

Third, if a proposed action may have a significant impact on the human environment, the agency must prepare an Environmental Impact Statement ("EIS").[[96]](#footnote-97)96 After preparing the EIS, the agency must issue a record of decision ("ROD") summarizing which factors from the EIS the agency considered in making its final decision to select a particular alternative.[[97]](#footnote-98)97

NEPA is a procedural statute that does not require any particular substantive outcome. 98 Nothing in NEPA or its implementing regulations require an agency to approve, or deny, any particular EOR development proposal. NEPA only "prohibits uninformed - rather than unwise - agency action."[[98]](#footnote-99)99 Yet despite its purely procedural nature, the importance of NEPA's requirements on the timing, design, phasing, and business planning for EOR projects on federal lands cannot be overstated. Proponents of EOR projects would be wise to consider NEPA issues early and often in their development of proposals for federal land EOR projects.

A. NEPA Timing

A central element of the NEPA process is that it can take an extraordinarily long time, and federal project approvals cannot issue until the NEPA process is complete.[[99]](#footnote-100)100 A recent study by the General Accounting Office ("GAO") reported that "the 197 final EISs in 2012 had an average preparation time of 1,675 days, or 4.6 years."[[100]](#footnote-101)101 The same study noted that "the Forest Service reported that its 501 EAs in fiscal year 2012 took an average of about 18 months to complete."[[101]](#footnote-102)102 And the costs can be staggering. The GAO report noted that "[a]ccording to [Department of Energy] data, the average payment to a contractor to prepare an EIS from calendar year 2003 through calendar year 2012 was $ 6.6. million, with the range being a low of $ 60,000 and a high of $ 85 million."[[102]](#footnote-103)103 These practical realities of the NEPA process must be taken into account in business planning.

Given the long lead time required by the NEPA process, EOR project proponents may be tempted to rush to submit a formal application to the federal agency to "get the application in the pipeline," working out the details and making necessary adjustments later. Proponents may also decide to "piecemeal" a project, submitting an application for portions of a project that are in later stages of planning and waiting to later submit separate applications for portions of a project that are not as fleshed out. While these approaches may sometimes be appropriate (especially for relatively simple projects), proponents should be cautious.

First, many federal land management agencies actively encourage, and often require, the applicant to discuss their proposed project in a less structured "pre-application" process before submitting a formal application for NEPA review. For example, the BLM encourages applicants to attend a "pre-application" meeting prior to filing a right of way application.[[103]](#footnote-104)104 The BLM and Forest Service encourage operators wishing to drill an ***oil*** or gas well to "contact the BLM and any applicable Surface Managing Agency ... to request an initial planning conference as soon as the operator has identified a potential areas of development" so that the agency can give the operator "the earliest possible identification of seasonal restrictions and determination of potential areas of conflict."[[104]](#footnote-105)105 And the Forest Service by regulation requires a preapplication "screening" of requests for special use permits before the agency may "notify the proponent that the agency is prepared to accept a written formal application for a special use authorization."[[105]](#footnote-106)106 Applicants can expect detailed questions about their overall and long-term plans for a project during this "pre-application" phase, and the agency may decline to process applications when additional details of the proposal are not fleshed out.

Second, as explained in more detail below, NEPA case law and regulations have developed robust requirements governing the "scope" of the NEPA process (i.e. what project components must be analyzed in what NEPA document). The law often prohibits certain types of segmentation of larger projects into smaller pieces for purposes of NEPA review. Attempts to piecemeal or segment a larger project may run afoul of these legal requirements. If a proponent later submits an additional application or significantly changes an existing application currently under review, that action could stall a NEPA process already underway as the agency reassesses the scope of its existing NEPA process and incorporates the additional detail into its review. Careful and early NEPA planning can maximize the likelihood of an efficient NEPA process.

B. NEPA Connected Actions

A CO2 EOR project may include several components such as: (1) the development of wells or infrastructure for capture of CO2 ; (2) a pipeline to transport that CO2 to producing fields; (3) other infrastructure such as compression or "sweetening" facilities to process and transport the CO2 ; and (4) development of EOR infrastructure in the producing field, which may or may not be "phased" over many years or even decades. The unique integrated aspect of CO2 EOR makes the law governing the scope of the NEPA process critical: does every component of a decades-long plan for EOR need to be evaluated in a single NEPA document?

The preparation of a single comprehensive EIS could theoretically increase efficiency because the agency needs to only prepare a single document, rather than multiple. But consolidation of multiple projects for review can also slow the agency's review considerably. Non-controversial projects that could otherwise be authorized quickly get bogged down in a broad NEPA review that may be focused on separate controversial issues.

"NEPA instructs that significant cumulative impacts are not to be made to appear insignificant by breaking a project down into small component parts."[[106]](#footnote-107)107 The agency must consider three types of actions when determining the scope of a NEPA document:

1. Connection actions - "which means that they are closely related and therefore should be discussed in the same impact statement."[[107]](#footnote-108)108
2. Cumulative actions - "which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement."[[108]](#footnote-109)109
3. Similar actions - "which when viewed with other reasonably foreseeable or proposed actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement."[[109]](#footnote-110)110

Note that connected and cumulative impacts "should" be addressed in a single EIS but similar actions "may" be addressed in a single EIS.[[110]](#footnote-111)111

Subject to these limits and guidance, agencies generally have significant discretion to determine the scope of an EIS, and may consider factors such as administrative efficiency. Courts will generally defer to the agency's decision about the scope of NEPA review. Where an agency declines to consolidate actions for review in a single EIS, a plaintiff challenging the agency's decision "must show that the [agency] was arbitrary and capricious in failing to prepare one comprehensive environmental statement."[[111]](#footnote-112)112

Timing considerations also figure into the appropriate scope of the NEPA process. NEPA applies only when there is a "proposed action" for the agency to consider.[[112]](#footnote-113)113 "[T]he mere contemplation of certain action is not sufficient to require an impact statement."[[113]](#footnote-114)114 This means that the agency's analysis of whether other projects are "connected, cumulative, or similar" to a proposed action is generally limited to EOR projects that have formally been proposed. But if the agency undertakes review of one portion of an EOR project, and the proponent later proposes a second project while the first NEPA process is proceeding that the agency believes is connected to the first, the agency could consolidate the two projects for review after the initial NEPA review is well underway (delaying the initial project until review of both is complete). This means that holding a project back in the hope that timing differences would cause the agency to evaluate the two projects separately could backfire and delay review and approval of the first project.

The basic test for whether multiple components of a project must be evaluated in a single NEPA document is whether the two projects have "independent utility."[[114]](#footnote-115)115 "The crux of [the independent utility test] is whether each of two projects would have taken place with or without the other and thus had independent utility."[[115]](#footnote-116)116 "When one of the projects might reasonably have been completed without the existence of the other, the two projects have independent utility and are not 'connected' for NEPA's purposes."[[116]](#footnote-117)117 It is not enough that two projects would benefit from each other's presence. So long as each could exist without the other, the projects have "independent utility."[[117]](#footnote-118)118

The independent utility test involves fact specific analysis about whether multiple projects are co-dependent, or whether each would in fact have been constructed if the other were not. For example, in *Wilderness Workshop*, the BLM evaluated a proposed pipeline pursuant to NEPA. The pipeline would transport gas from existing wells and was sized to allow it to transport gas from a significant number of future wells. The plaintiffs argued that the BLM should have evaluated the pipeline and future wells in a single EIS. The court disagreed and held that the "pipeline will have independent utility" from future well development.[[118]](#footnote-119)119 The Court reasoned that:

Although the pipeline was large enough to take additional production, it had independent utility serving the production that exists today.[[119]](#footnote-120)120

Although future wells would likely be served by the pipeline, they could also exist without it because there were other viable pipeline routes.[[120]](#footnote-121)121

"[T]he fact that the existence of pipeline may encourage additional gas wells, and probably will serve any additional gas wells, does not mean necessarily that additional wells are connected actions."[[121]](#footnote-122)122

For an EOR project that involves a pipeline to transport CO2 and EOR development in an existing ***oil*** and gas field, critical questions include: (1) will the CO2 transported by the pipeline be solely used to support the new EOR project?; (2) does the EOR project depend on the pipeline for its development?; and (3) would the pipeline be built without the EOR project and vice versa?

Even where two components of a project have "independent utility," agencies still have discretion to review them in a single EIS if they are "cumulative actions." Cumulative actions are those "which when viewed with other proposed actions have cumulatively significant impacts ...."[[122]](#footnote-123)123 The BLM Manual provides that the BLM "*may* include both [cumulative] actions as aspects of a broader proposal, analyzed in a single NEPA document."[[123]](#footnote-124)124 The BLM Manual does not urge or require the BLM to jointly consider cumulative actions, but rather gives field officers significant discretion. This means that early discussion with the agency about the scope of the NEPA review is critical to the timeline for the project.

The bottom line: agencies have significant leeway in structuring the NEPA process, including in deciding which projects should be evaluated together and which may be segmented into separate NEPA processes. EOR proponents and regulatory agencies should consider how all of the pieces of an EOR project fit together, and identify ways to efficiently, legally, and effectively structure the review process to avoid delay, minimize legal risk, and provide for a public review process with integrity.

C. Phased EOR Operations and NEPA Tiering

One approach to address the problems inherent with the scope of NEPA and the longterm nature of EOR planning is to utilize a NEPA "tiering" approach. "Tiering" is the practice of incorporating the environmental analysis from an existing EIS into a subsequently prepared EIS or EA by referencing that prior analysis.[[124]](#footnote-125)125 White House Council on Environmental Quality (CEQ) regulations encourage federal agencies to avoid duplicating paperwork and environmental analysis by tiering.[[125]](#footnote-126)126 Tiering allows the agency to concentrate on the specific proposal at hand while incorporating the relevant environmental analysis from another EIS.

Tiering often arises when an agency prepares a programmatic EIS followed by subsequent site-specific EISs or EAs that are within the scope of the programmatic EIS. For example, the BLM may prepare a programmatic EIS for a federal land use plan that analyzes foreseeable natural resources development and other activities within the plan area over a ten to fifteen year period. Such an EIS is programmatic; it does not contain site-specific analysis of the activities anticipated in the EIS. Similarly, the agency may prepare a programmatic NEPA document that evaluates EOR development throughout a given ***oil*** field. Later site-specific EAs or EISs for particular development proposals within that field can then tier back to the environmental analysis.

Where an agency makes decisions at two levels - i.e., at a programmatic or planning level and at a site-specific level - it is appropriate for it to make its NEPA analysis either programmatic or site-specific.[[126]](#footnote-127)127 A programmatic EIS must provide "sufficient detail to foster informed decision-making," but "site-specific impacts need not be fully evaluated until a critical decision has been made to act on site development."[[127]](#footnote-128)128 This can help solve problems inherent in a decades-long EOR project. The initial NEPA document can evaluate field-wide EOR at a programmatic and conceptual level, and later site-specific NEPA documents can evaluate specific projects as they are fleshed out (referencing back to, updating, and incorporating the analysis from, the prior NEPA document).

Tiering has been employed by federal land management agencies for EOR projects. For example, an operator proposed to develop a field-wide CO2 EOR project in the Salt Creek ***Oil*** Field in Natrona County, Wyoming. The field encompasses approximately 35 square miles, and so preparing site-specific plans for development of the entire field at the outset raised obvious difficulties. The project proponent and BLM divided the field into 10 separate zones (subsequently expanded to 18) for "phased development." The BLM prepared an initial NEPA document in 2003 that "assessed the potential environmental impacts of developing a full-field CO2 EOR Project over 10 expansion phases and analyze the detailed development of Phase 1 of the CO2 EOR project."[[128]](#footnote-129)129 BLM has since prepared six additional NEPA documents for development of other phases of the field that tier back to, incorporate, and update where appropriate, the initial NEPA analysis.[[129]](#footnote-130)130 This approach allows the agency and proponent to address issues regarding connected and cumulative actions, while allowing some flexibility in the NEPA analysis of phased site-specific development proposals.

D. NEPA Alternatives

Each EA or EIS must include a purpose and need section that includes a brief statement of "the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."[[130]](#footnote-131)131 It is a statement of the agency's goals or objectives in considering a proposal requiring federal action (e.g., a proposal requesting the BLM's approval of an APD or ROW application).[[131]](#footnote-132)132 NEPA then requires an agency to consider reasonable alternatives that will achieve the objectives identified in the purpose and need statement. The alternatives section is considered the "heart" of the EIS.[[132]](#footnote-133)133 Agencies must "rigorously explore and objectively evaluate all reasonable alternatives" to a proposed action, including the "no action" alternative.[[133]](#footnote-134)134

The identification of alternatives is a frequent source of frustration for project proponents, who may have already identified what they believe to be the "best" and most efficient pipeline route or development plan when they submit an application. The identification of alternatives can be especially frustrating for projects like a pipeline, where there may be infinite theoretically possible routes from "point A" to "point B." And the uncertainty inherent in the evaluation of multiple alternatives can complicate issues such as the timing of right of way acquisition across fee portions of a pipeline route. NEPA evaluation of numerous alternatives of dubious merit increases cost and delay: each route must be analyzed and evaluated (usually at the applicant's expense).

But the identification of alternatives is not cursory.[[134]](#footnote-135)135 The alternatives analysis ensures "that the agency has before it and takes into account all possible approaches to, and potential environmental impacts of, a particular project."[[135]](#footnote-136)136 Whether a particular alternative is reasonable, and should have been analyzed, is a frequent claim in NEPA litigation involving natural resources development. The identification of alternatives merits careful consideration.

Although federal agencies must evaluate "all reasonable alternatives," this requirement is "necessarily bound by a 'rule of reason and practicality.'"[[136]](#footnote-137)137 Where there are a large or even infinite number of hypothetically possible alternatives, "only a reasonable number of examples, covering the full spectrum of alternatives, must be analyzed and compared in the EIS."[[137]](#footnote-138)138 An agency may similarly decline to evaluate alternatives that it has "in good faith rejected as too remote, speculative, or ... impractical or ineffective."[[138]](#footnote-139)139

Agencies have a great deal of flexibility in deciding which alternatives to carry forward through the NEPA process (including alternatives that may not be preferable to the project proponent). But if the agency is considering alternatives that the proponent believes are economically or technically infeasible, the proponent should consider preparing documentary evidence supporting that conclusion and providing it to the agency to attempt to constrain the alternatives for review in the NEPA process to a reasonable universe.

E. EOR Operations Spanning Public and Private Lands

EOR development projects, especially linear projects such as pipelines, often span federal, fee, and state lands. NEPA applies to federal, not purely state or private, actions. Because of this, a proponent might consider beginning construction of infrastructure on private or state lands while waiting for the NEPA process to finish and resulting federal permits to issue. Doing so can, in some instances, cause significant NEPA problems.

A private action may be "connected" to a federal action for NEPA purposes, even where that private action requires no federal permit.[[139]](#footnote-140)140 Although federal land management agencies do not have substantive authority over actions on fee or state lands, the agency may retaliate against actions that might constrain its review of alternatives in the NEPA process (for example, construction of a portion of a pipeline on fee lands may limit alternative routes for that pipeline on federal lands). CEQ guidance addresses situations where a private party takes action that would "either have an adverse environmental impact or limit the choice of reasonable alternatives" in a NEPA process.[[140]](#footnote-141)141 The CEQ instructs the agency to prevent that private action, including by using "sanctions available under either the agency's permitting authority or statutes setting forth the agency's statutory mission. For example, the agency might advise an applicant that if it takes such action *the agency will not process its application*."[[141]](#footnote-142)142 And even if the agency does eventually grant the applicant its requested authorization, the alternatives analysis may result in approval of a pipeline route or other authorization that is not compatible with the prior private land development.

F. Energy Policy Act of 2005 Categorical Exclusions

Section 390 of the Energy Policy Act of 2005 established five categorical exclusions from NEPA for ***oil*** and gas exploration and development activities conducted on federal lands.[[142]](#footnote-143)143 The Section 390 CEs apply to the development of federal ***oil*** and gas resources leased under the Mineral Leasing Act of 1920.[[143]](#footnote-144)144 Because many of the statutory CEs depend on redevelopment at existing sites, placement of pipelines in existing right of way corridors, or development in existing fields, these CEs may prove especially useful to an EOR proponent. The statutory CEs are subject to a "rebuttable presumption" of applicability.[[144]](#footnote-145)145 Although the Section 390 CEs exempt specific actions from NEPA review, all other applicable laws, regulations, and policies apply.

1. CE 1 - Individual Surface Disturbance of Less Than Five Acres

The first categorical exclusion (CE 1) excludes the following from analysis under NEPA:

*Individual surface disturbances of less than 5 acres so long as the total surface disturbance on the lease is not greater than 150 acres and site-specific analysis in a document prepared pursuant to NEPA has been previously completed*.[[145]](#footnote-146)146

Three factors must be present for CE 1 to apply: (1) the individual five-acre disturbance threshold cannot be exceeded; (2) the total unreclaimed surface disturbance limit cannot exceed 150 acres; and (3) a previously completed NEPA document must include a site-specific analysis of ***oil*** and gas exploration or development.[[146]](#footnote-147)147

BLM guidance provides that the "five-acre limit should be applied separately to each action requiring discrete BLM action, such as each APD, even though for processing efficiency purposes the operator may submit for review a large Plan of Development (POD) addressing many wells."[[147]](#footnote-148)148 The 150-acre limit applies separately to each lease, even if the lease is communitized or unitized with additional leases.[[148]](#footnote-149)149 The authorized officer must determine whether the "current unreclaimed surface disturbance readily visible on the entire leasehold is not greater than 150 acres, including the action under consideration."[[149]](#footnote-150)150 The officer must include surface disturbances from any prior right-of-way authorized to support lease development in the total calculation.[[150]](#footnote-151)151

CE 1 may be used only where previous site-specific NEPA analysis has been completed. The site-specific NEPA analysis can be "either an exploration and/or development EA/EIS, an EA/EIS for a specific Master Development Plan, a multi-well EA/EIS, or an individual permit approval EA/EIS."[[151]](#footnote-152)152 The NEPA document must consider the exploration for or development of ***oil*** and gas (not just leasing) within the same general area, but it need not analyze the specific proposed activity.[[152]](#footnote-153)153

2. CE 2 - Drilling at an Existing Well Location

The second categorical exclusion (CE 2) excludes the following from review under NEPA:

*Drilling an* ***oil*** *and gas location or well pad at a site at which drilling has occurred within 5 years prior to the date of spudding the well*.[[153]](#footnote-154)154

CE 2 has broad potential application but two factors must exist: (1) the well must be drilled at an existing location or well pad; and (2) drilling must have occurred at the location within the past five years.

First, the agency must determine whether the proposed activity (drilling) will occur at an ***oil*** and gas well pad that was previously used for drilling. A "location or well pad" is defined as "a previously disturbed or constructed well pad used in support of drilling a well."[[154]](#footnote-155)155 "Drilling" refers to any drilled well including injection, water source, or other service well.[[155]](#footnote-156)156 An operator may disturb or expand an existing well pad to facilitate the drilling of a new well, so long as it is tied to the original location or well pad.[[156]](#footnote-157)157 However, CE 2 "does not extend to new well sites merely in the general vicinity of the original location or well pad."[[157]](#footnote-158)158

Second, drilling must have occurred within five years prior to the date of spudding the proposed well. The five-year period begins when the most recent previous drilling activity is completed.[[158]](#footnote-159)159 If an operator delays in spudding a new well, and over five years passes between the previous well completion and spudding, an operator must suspend its operations until the agency completes the required NEPA review and issues a new decision on the APD.[[159]](#footnote-160)160

3. CE 3 - Drilling Within a Developed Field

The third Section 390 categorical exclusion (CE 3) excludes the following from NEPA review:

*Drilling an* ***oil*** *or gas well within a developed field for which an approved land use plan or any environmental document prepared pursuant to NEPA analyzed such drilling as a reasonably foreseeable activity, so long as such plan or document was approved within 5 years prior to the date of spudding the well*.[[160]](#footnote-161)161

Each of the following requirements must exist for CE 3 to apply: (1) the proposed drilling must occur within a developed ***oil*** or gas field; (2) drilling must have been analyzed as a reasonably foreseeable activity in a previously prepared land use plan or any NEPA document; and (3) the land use plan or NEPA document must have been finalized or supplemented within five years or spudding the well.

The proposed well must be located within a developed ***oil*** and gas field, which would generally be the case for EOR development. A "developed field" is defined as "any field in which a confirmation well has been completed," usually after the third well.[[161]](#footnote-162)162 The pending APD must be within the reasonably foreseeable development scenario in any existing land use plan or NEPA document.[[162]](#footnote-163)163 The NEPA document can be of any type that analyzed drilling, including that supporting a land use plan.[[163]](#footnote-164)164 The BLM and Forest Service may rely on a NEPA document prepared by another agency.[[164]](#footnote-165)165

4. CE 4 - Placement of a Pipeline in an Approved Right-of-Way

The fourth Section 390 categorical exclusion (CE 4) excludes:

*Placement of a pipeline in an approved right-of-way corridor, so long as the corridor was approved within 5 years prior to the date of placement of the pipeline*.[[165]](#footnote-166)166

Because EOR development generally occurs in areas with existing infrastructure, this CE may prove useful. Two factors are required for CE 4 to apply: (1) the proposed pipeline must be placed in an approved right-of-way corridor; and (2) the corridor must have been approved within the last five years. An approved right-of-way corridor includes those of "any type."[[166]](#footnote-167)167 The five-year limitation is calculated from "the date the decision was made approving the corridor, including any amendments to the corridor."[[167]](#footnote-168)168 "The time period extends to the date placement of any portion of the new pipeline is concluded, provided that placement activities began within the 5-year period."[[168]](#footnote-169)169

5. CE 5 - Minor Maintenance

The fifth Section 390 categorical exclusion (CE 5) excludes:

*Maintenance of a minor activity, other than any construction or major renovation or a building or facility*.[[169]](#footnote-170)170

This exclusion applies to actions such as the "maintenance of the well or wellbore, a road, wellpad, or production facility."[[170]](#footnote-171)171 It does not cover construction or major renovation, such as adding a compressor building.[[171]](#footnote-172)172 This CE may apply to ongoing operations and maintenance of an EOR project.

V. The National Historic Preservation Act

Section 106 of the National Historic Preservation Act ("NHPA") requires federal agencies to "take into account" the effect of their activities on historic properties that are "included in or eligible for listing in the National Register" and to afford the Advisory Council on Historic Preservation "a reasonable opportunity to comment with regard to such undertakings."[[172]](#footnote-173)173

Like NEPA, the NHPA applies to federal, not purely state or private, actions.[[173]](#footnote-174)174 Like NEPA, NHPA consultation must be completed before a federal permit authorizing private action may occur.[[174]](#footnote-175)175 Like NEPA, the NHPA is a procedural statute that does not mandate particular results or substantively constrain the outcome of federal agency decisions.[[175]](#footnote-176)176 But also like NEPA, the NHPA's procedural requirements should be taken into account in project and business planning because they can affect the timing and design for EOR projects.

Detailed regulations govern the Section 106 process.[[176]](#footnote-177)177 Generally, the Section 106 process requires federal agencies to:

(1) make a reasonable and good faith effort to identify historic properties potentially affected by the undertaking; (2) assess any potential adverse effects to historic properties; (3) consult with the relevant [State Historic Preservation Officer(s)]; (4) consult with any Indian tribes attaching religious and cultural significance to historic properties that may be affected by the project, even if the project is off tribal lands; (5) consult with local governments; and, in some situations, consult directly with the ACHP. In addition, the agency must consider the views of the public and must provide notice and information prior to making a decision regarding an undertaking. The ACHP rules also provide requirements for special situations for protecting National Historic Landmarks, detailed documentation standards, and procedures for emergency situations as well as post-review discoveries.[[177]](#footnote-178)178

The scope of NHPA can be especially broad for linear components of EOR projects. The BLM has interpreted the NHPA to require it to complete reviews and consultation for private lands where "the location of potential surface disturbance [on those private lands] is dependent on, integrally related to, or directly associated with a BLM decision ...."[[178]](#footnote-179)179 The Interior Board of Land Appeals and the Department of Interior Office of the Solicitor have both determined that, for linear pipeline projects, the BLM must comply with the NHPA for both the federal and non-federal portions of a project.[[179]](#footnote-180)180

The agency will generally carry out its responsibilities under the NHPA in conjunction with its environmental review under NEPA. "Whenever possible, the Field Office manager shall integrate the actions necessary to carry out [necessary historic and cultural resource reviews] with the environmental reviews and analysis conducted to fulfill the requirements of [NEPA]."[[180]](#footnote-181)181 If the Section 106 process reveals historic properties that may be affected, the BLM will likely not finalize its preferred method of minimizing, mitigating, and avoiding the affects to those properties until it has completed its NEPA review.[[181]](#footnote-182)182 The BLM will memorialize its completion of both the NHPA and NEPA processes in a Record of Decision prepared for the project.

VI. Conclusion

EOR development and operations on federal lands is a complex puzzle. Careful planning can help stitch the pieces together.

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98">98*Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350-51 (1989); *Dep't of Transp. v. Public Citizen*, 541 U.S. 752, 756 (2004).

Proceedings of the Rocky Mountain Mineral Law Foundation Annual and Special Institutes

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**End of Document**

1. 1U.S. Department of Agriculture, The U.S. Forest Service - An Overview at 9, http://www.fs.fed.us/documents/USFS\_An\_Overview\_0106MJS.pdf [↑](#footnote-ref-2)
2. 2U.S. Department of the Interior, Public Land Statistics 2013 at 1, http://www.blm.gov/public\_land\_statistics/ [↑](#footnote-ref-3)
3. 3*Id.* at Table 1-3. [↑](#footnote-ref-4)
4. 4*Id.* [↑](#footnote-ref-5)
5. 5*Id.* [↑](#footnote-ref-6)
6. 6*Id.* [↑](#footnote-ref-7)
7. 7*Cal. Coastal Comm'n v. Granite Rock Co.*, 480 U.S. 572, 593-94 (1987) (federal law governs development and operation of federal minerals on federal lands; state and local law applies unless preempted by federal law). [↑](#footnote-ref-8)
8. 8The Tenth Circuit Court of Appeals recognized the uncertainty inherent in the early stages of ***oil*** and gas exploration and development on federal lands in *Park County Res. Council, Inc. v. United States Dep't of Agric.*, 817 F.2d 609, 623 (10th Cir. 1987) ("Full field development is typically an extremely tentative possibility at best at the leasing stage."), overruled on other grounds by *Village of Los Ranchos De Albuquerque v. Marsh*, 956 F.2d 970 (10th Cir. 1992). [↑](#footnote-ref-9)
9. 9Examples of natural CO2 sources include the McElmo Dome Field in southwest Colorado, Sheep Mountain in south central Colorado, and Bravo Dome in northeastern New Mexico. *See* L. Stephen *Melzer, Carbon Dioxide Enhanced* ***Oil*** *Recovery (CO2 EOR): Factors Involved in Adding Carbon Capture, Utilization and Storage (CCUS) to Enhanced* ***Oil*** *Recovery* at 4 (Feb. 2012), http://neori.org/Melzer\_CO2EOR\_CCUS\_Feb2012.pdf. [↑](#footnote-ref-10)
10. 10*E.g.*, 78 Fed. Reg. 30,901 (May 23, 2013) (U.S. Department of Energy record of decision authorizing federal financial assistance for a post-combustion CO2 capture and compression system at a coal-fired power plant in Fort Bend County, Texas to supply CO2 to deliver by 81- mile long pipeline for EOR operations). [↑](#footnote-ref-11)
11. 11*E.g.*, 74 Fed. Reg. 62,290 (Nov. 27, 2009) (U.S. Department of Energy notice of intent to prepare an environmental impact statement to assess the impacts of a federal loan guarantee for a coal-to-liquids plant in Carbon County, Wyoming designed to capture 50 percent of CO2 for EOR operations that would otherwise be emitted to the atmosphere). It does not appear that the coal-to-liquids facility was ever constructed. [↑](#footnote-ref-12)
12. 12For example, in 1985 the BLM authorized two entities to construct a 46 mile pipeline and a 127 mile pipeline to transport CO2 from the Shute Creek natural gas processing facility in Sweetwater County, Wyoming to the Rangely Weber Sand unit ***oil*** field in Rangely, Colorado. See U.S. Department of the Interior, Rangely Carbon Dioxide Pipeline Final Environmental Impact Statement (Feb. 1985), https://archive.org/details/finalenvironment06unit. [↑](#footnote-ref-13)
13. 13*See* Rachael Seeley, Shale's Social License, ***Oil*** & Gas Journal (July 21, 2014), http://www.ogj.com/articles/print/volume-112/issue-7b/regular-features/journallyspeaking/ shale-s-social-license.html; Don C. Smith & Jessica Marie Richards, Social License to Operate: Hydraulic Fracturing-Related Challenges Facing the ***Oil*** & Gas Industry, RMMLF Institute on International Mining and ***Oil*** & Gas Law, Development and Investment (April 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=2591988. [↑](#footnote-ref-14)
14. 14The Mineral Leasing Act of 1920 authorizes the Secretary of the Interior to issues leases for a variety of minerals, including "[d]eposits of ... ***oil*** ... or gas." 30 U.S.C. § 181. The Department of the Interior has interpreted the term "gas" in leases issued under the Act to include carbon dioxide. The Tenth Circuit Court of Appeals upheld the Department's related construction of the Agricultural Entry Act of 1914, in which the Department interpreted the reservation of "gas" in patents issued to entrymen under the 1914 Act to include carbon dioxide, the practical result being that carbon dioxide deposits reserved to the United States were subject to federal ***oil*** and gas leases issued under the Mineral Leasing Act. *Aulston v. United States*, 915 F.2d 584, 599 (10th Cir. 1990). [↑](#footnote-ref-15)
15. 15*See* 43 C.F.R. pt. 3100 (federal ***oil*** and gas leasing); 43 C.F.R. pt. 3160 (onshore ***oil*** and gas operations on federal lands and minerals). [↑](#footnote-ref-16)
16. 16*See* Onshore Order No. 1, 72 Fed. Reg. 10,308 (March 7, 2007). [↑](#footnote-ref-17)
17. 17*Id.* [↑](#footnote-ref-18)
18. 1830 U.S.C. § 226(g); 36 C.F.R. §§ 228.100 to 228.116. For a detailed summary of ***oil*** and gas development on Forest Service lands, *see* Ezekiel J. Williams & Steven K. Imig, *Energy Development on National Forest System Lands*, 57 Rocky Mtn. Min. L. Inst. 6-1, 6-20 to 6-30 (2011). [↑](#footnote-ref-19)
19. 1930 U.S.C. § 226(m); 43 C.F.R. pt. 3180 (BLM unitization regulations). [↑](#footnote-ref-20)
20. 20BLM, Operator's Handbook for Enhanced Recovery Unit Agreements, http://www.blm.gov/style/medialib/blm/ut/lands\_and\_minerals/***oil***\_and\_gas.Par.44432.File.dat/ENHANCED-HANDBOOK.pdf. [↑](#footnote-ref-21)
21. 21*E.g.*, BLM Finding of No Significant Impact and Decision, Grieve Unit CO2 Enhanced ***Oil*** Recovery Project, Environmental Assessment: WY-050EA11-108 (July 26, 2012), http://www.blm.gov/style/medialib/blm/wy/information/NEPA/lfodocs/grieveunit.Par.28534.File.dat/dr-fonsi.pdf. [↑](#footnote-ref-22)
22. 22*Entek GRB, LLC v. Stull Ranches, LLC*, 763 F.3d 1252, 1258-59 (10th Cir. 2014), petition for cert. filed Feb. 19, 2015. [↑](#footnote-ref-23)
23. 2330 U.S.C. § 185(a); 43 C.F.R. pt. 2880. [↑](#footnote-ref-24)
24. 2443 U.S.C. § 1761; 43 C.F.R. pt. 2800. [↑](#footnote-ref-25)
25. 2530 U.S.C. § 185(a); 43 U.S.C. § 1761(a)(7). [↑](#footnote-ref-26)
26. 2630 U.S.C. § 185(a). *See also* 43 C.F.R. pt. 2880 (BLM Mineral Leasing Act right-of-way regulations). [↑](#footnote-ref-27)
27. 2743 C.F.R. § 2881.5(b). [↑](#footnote-ref-28)
28. 28*Id.* § 185(b). [↑](#footnote-ref-29)
29. 2943 U.S.C. § 1761 (a). *See also* 43 C.F.R. pt. 2800 (BLM FLPMA right-of-way regulations). [↑](#footnote-ref-30)
30. 3043 U.S.C. § 1761 (a)(2) (emphasis added). [↑](#footnote-ref-31)
31. 31*Compare* 30 U.S.C. § 185(a) *with* 43 U.S.C. § 1761(a)(2). *See also* 43 C.F.R. 2801.6(b)(4) (FLPMA right-of-way grant may not be issued to non-governmental entities for transporting "natural gas"). [↑](#footnote-ref-32)
32. 3243 U.S.C. § 1761(a)(1)-(7). [↑](#footnote-ref-33)
33. 33*See Exxon Corp.*, 97 IBLA 45, 56 (1987). [↑](#footnote-ref-34)
34. 34*Id.* [↑](#footnote-ref-35)
35. 35*See id.* at 61. [↑](#footnote-ref-36)
36. 36*Id.* [↑](#footnote-ref-37)
37. 37467 U.S. 837, 842-43 (1984). In *Chevron*, the Supreme Court ruled that if a statutory term that an agency administers is ambiguous, a court will defer to the agency's interpretation so long as it is "reasonable." *See id.* [↑](#footnote-ref-38)
38. 38*See Exxon Corp. v. Lujan*, 970 F.2d 757, 763 (10th Cir. 1992). [↑](#footnote-ref-39)
39. 39*Id.* at 763. [↑](#footnote-ref-40)
40. 40*Id.* [↑](#footnote-ref-41)
41. 41*Id.* [↑](#footnote-ref-42)
42. 42*Id.* [↑](#footnote-ref-43)
43. 43*E.g., National Cable & Telecommunications Assn. v. Brand X Internet Servs.*, 545 U.S. 967, 982-83 (2005) (ruling that a court's choice of one reasonable interpretation of an ambiguous statute does not preclude an implementing agency from later adopting a different reasonable interpretation). [↑](#footnote-ref-44)
44. 44*See* 30 U.S.C. § 185(r) (emphasis added). [↑](#footnote-ref-45)
45. 45*See John D. Archer*, 120 IBLA 290, 297 (1991) (stating that "it is undoubted that the BLM has authority to require a right-of-way holder to operate an authorized pipeline as a common carrier in certain circumstances, consistent with the broad discretion accorded to BLM under FLPMA."); *see also Ashley Creek Phosphate Co.*, 134 IBLA 206, 227 (1995) (holding that it would have been appropriate to impose common carrier restrictions on a FLPMA pipeline for environmental reasons where "part of the pipeline is in a narrow canyon and in an environmentally sensitive area [and] it is doubtful that BLM would grant a right-of-way for a second pipeline for the same general route."). [↑](#footnote-ref-46)
46. 46*See* 30 U.S.C. § 185(r)(2)(A); *see also* 43 C.F.R. § 2885.11(b)(16) (stating: "Where natural gas not subject to state regulatory or conservation laws governing its purchase by pipeline companies is offered for sale, each pipeline company must purchase, without discrimination, any such natural gas produced in the vicinity of the pipeline."). [↑](#footnote-ref-47)
47. 47*See* 30 U.S.C. § 185(r)(2)(B). [↑](#footnote-ref-48)
48. 48*See* 43 C.F.R. § 2885.11(b)(17). [↑](#footnote-ref-49)
49. 49*See, e.g.*, Congressional Research Service, Regulation of Carbon Dioxide Sequestration Pipelines: Jurisdictional Issues 2 (April 15, 2008) (stating that "there are two federal regulatory agencies that, generally speaking, have jurisdiction over interstate pipeline rate and capacity allocation matters [the FERC and the Surface Transportation Board] . . . both of these agencies appear to have explicitly rejected jurisdiction over CO2 siting and rates"); *Cortez Pipeline Company*, 7 FERC P 61,024 (1979); Cortez Pipeline Company - Petition for Declaratory Order - Commission Jurisdiction Over Transportation of Carbon Dioxide by Pipeline, 45 Fed. Reg. 85177 (Dec. 24, 1980). [↑](#footnote-ref-50)
50. 50*See* 43 C.F.R. § 2884.12. [↑](#footnote-ref-51)
51. 51*See* 30 U.S.C. § 185(r)(5). [↑](#footnote-ref-52)
52. 52*Id.* [↑](#footnote-ref-53)
53. 53Pub. L. No. 93-523 (1974), codified as amended at 42 U.S.C. §§ 300f-300j-26. [↑](#footnote-ref-54)
54. 54*See generally* 40 C.F.R. Parts 144, 145, 146, 147; http://water.epa.gov/type/groundwater/uic/index.cfm. [↑](#footnote-ref-55)
55. 55*See* 40 C.F.R. pt. 144 (2015) (setting forth regulatory requirements for the UIC program promulgated under Part C of the Safe Drinking Water Act, 42 U.S.C. 300f *et seq.*). [↑](#footnote-ref-56)
56. 5633 U.S.C. §§ 1251-1387. [↑](#footnote-ref-57)
57. 57*E.g., National Wildlife Fed'n v. Gorsuch*, 693 F.2d 156, 165 (D.C. Cir. 1982). [↑](#footnote-ref-58)
58. 5833 U.S.C. § 1342(a). [↑](#footnote-ref-59)
59. 59*Northern Plains Resource Council v. Fidelity Exploration and Development Co.*, 325 F.3d 1155, 1164 (9th Cir. 2003). [↑](#footnote-ref-60)
60. 6033 U.S.C. § 1344. For a summary of the Clean Water Act point source discharge program and wetlands programs, see: Zach C. Miller, *Overview of Clean Water Act: Section 402 and 404 Permitting Programs*, in Federal Regulation of Cultural Resources, Wildlife and Waters of the United States, Paper No. 12, p. 12-1 (Rocky Mt. Min. L. Fdn. 2012). [↑](#footnote-ref-61)
61. 6142 U.S.C. §§ 7401-7671q. [↑](#footnote-ref-62)
62. 62*See generally* Colin G. Harris & Ivan L. London, *There's Something in the Air: New and Evolving Air Quality Regulations Impacting* ***Oil*** *and Gas Development*, 58 Rocky Mt. Min. L. Inst. 6-1 (2012); John R. Jacus & Sherry Haller Bursey, *Hazed and Confused: Clean Air Act Developments Affecting the* ***Oil*** *and Gas Industry*, 51 Rocky Mtn. Min. L. Inst. 12-1 (2005). [↑](#footnote-ref-63)
63. 6316 U.S.C. § 1536; 50 C.F.R. pt. 402 (informal and formal consultation regulations). [↑](#footnote-ref-64)
64. 6416 U.S.C. § 1538. [↑](#footnote-ref-65)
65. 6516 U.S.C. § 1536(b)(4). [↑](#footnote-ref-66)
66. 66For an overview of the application of the Endangered Species Act to development activities, see: Federico Cheever, *Greater Sage-Grouse, Lesser Prairie-Chickens, and Dunes Sagebrush Lizards: Developments in the Courts, Federal Agencies, and the States Regarding Imperiled but Not (Yet?) Listed Species*, 58 Rocky Mt. Min. L. Inst. 23-1 (2012); Benjamin Jesup, *Endless War or End This War? The History of Deadline Litigation Under Section 4 of the Endangered Species Act and the Multi-District Litigation Settlements*, Federal Regulation of Cultural Resources, Wildlife, and Waters of the U.S., Paper No. 7A, p. 7A-1 (Rocky Mt. Min. L. Fdn. 2012). [↑](#footnote-ref-67)
67. 67*See* Steven K. Imig, *Federal Regulation of Non-Listed Wildlife*, Federal Regulation of Cultural Resources, Wildlife, and Waters of the U.S., Paper No. 11, p. 11-1 (Rocky Mt. Min. L. Fdn. 2012). [↑](#footnote-ref-68)
68. 68*See* Sandra A. Snodgrass, *It's for the Birds: Recent Developments under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act*, Federal Regulation of Cultural Resources, Wildlife, and Waters of the U.S., Paper No. 10A, p. 10-1 (Rocky Mt. Min. L. Fdn. 2012). [↑](#footnote-ref-69)
69. 69*See* Philip C. Lowe & Caleb Hiner, *Wildlife Considerations in the Land Use Planning Process*, Public Land Law, Regulation, and Management, Paper No. 11, p. 11-1 (Rocky Mt. Min. L. Fdn. 2014); Sandra A. Snodgrass & Lauren R. Caplan, *Special-Status Wildlife on Public Lands*, Public Land Law, Regulation, and Management, Paper No. 12, p. 12-1 (Rocky Mt. Min. L. Fdn. 2014). [↑](#footnote-ref-70)
70. 70*Cal. Coastal Comm'n v. Granite Rock Co.*, 480 U.S. 572, 593-94 (1987) (federal law governs development and operation of federal minerals on federal lands; state and local law applies unless preempted by federal law). [↑](#footnote-ref-71)
71. 712 Law of Federal ***Oil*** and Gas Leases § 24.01[2], at 24-2 (LexisNexis Matthew Bender 2014) (discussing state regulation of ***oil*** and gas activities on federal land). [↑](#footnote-ref-72)
72. 72Onshore Order No. 1, 72 Fed. Reg. 10,308, 10311 (March 7, 2007). [↑](#footnote-ref-73)
73. 73*E.g.*, 43 C.F.R. § 3162.3-1 ("An acceptable well-spacing program may be ... one which conforms with a spacing order or field rule issued by a State Commission or Board and accepted by the authorized officer ...."). [↑](#footnote-ref-74)
74. 7443 U.S.C. § 1732(a) (BLM "shall manage the public lands ... in accordance with the land use plans"); 43 U.S.C. § 1610.5-3(a) (BLM "authorizations and actions ... shall conform to the approved plan"); 16 U.S.C. § 1604(i) (Forest Service authorizations and permits "shall be consistent with the land management plans"). [↑](#footnote-ref-75)
75. 7543 C.F.R. §§ 1601.0-6, 1601.0-8 (EIS and public notice and comment required for preparation or revision of BLM RMP); 36 C.F.R. §§ 219.5(a)(2)(i), 219.4 (EIS and public notice and comment required for preparation of Forest Service Forest Plan). [↑](#footnote-ref-76)
76. 76*See* 40 C.F.R. § 1502.20. [↑](#footnote-ref-77)
77. 7743 U.S.C. § 1712; 43 C.F.R. pt. 1600. For an overview of BLM land use planning, see: Ezekiel J. Williams & Carolyn L. McIntosh, *The Growing Phenomenon of Challenges to Federal Land Use Plans in Natural Resources Development Projects*, 51 Rocky Mtn. Min. L. Inst. 11-1, 11-7 to 11-1 (2005). [↑](#footnote-ref-78)
78. 7816 U.S.C. § 1604; 36 C.F.R. pt. 219. The United States Supreme Court summarized land use planning on Forest Service lands in *Ohio Forestry Ass'n, Inc. v. Sierra Club*, 523 U.S. 726, 728-30 (1998). For an overview of Forest Service land use planning, see: Ezekiel J. Williams & Steven K. Imig, *Energy Development on National Forest System Lands*, 57 Rocky Mtn. Min. L. Inst. 6-1, 6-10 to 6-16 (2011). [↑](#footnote-ref-79)
79. 79*E.g., Norton v. S. Utah Wilderness Alliance*, 124 S. Ct. 2373, 2382-83 (2004) (discussing programmatic nature of BLM RMP). [↑](#footnote-ref-80)
80. 8043 C.F.R. § 1610.5-3 (BLM authorizations must conform to the RMP); 36 C.F.R. § 219.15 (projects and activities must be consistent with applicable Forest Plan). [↑](#footnote-ref-81)
81. 8143 U.S.C. § 1732(a); 43 U.S.C. § 1610.5-3(a); 16 U.S.C. § 1604(i). [↑](#footnote-ref-82)
82. 8243 C.F.R. § 1610.5-5 (process for amending BLM RMP); 36 C.F.R. § 219.51 (process for amending Forest Plan). [↑](#footnote-ref-83)
83. 83*Ohio Forestry Ass'n*, 523 U.S. at 735 (noting that the Forest Service may amend a Forest Plan to allow for action that would otherwise not be consistent with the plan). [↑](#footnote-ref-84)
84. 845 U.S.C. §§ 701-706. [↑](#footnote-ref-85)
85. 85*E.g., Theodore Roosevelt Conservation Partnership v. Salazar*, 616 F.3d 497, 508-09 (D.C. Cir. 2010) (ruling that BLM decision authorizing ***oil*** and gas development on public lands conformed to RMP); *San Juan Citizens Alliance v. Stiles*, 654 F.3d 1038, 1051-52 (10th Cir. 2011) (rejecting claim that Forest Service decision authorizing ***oil*** and gas development on Forest Service lands did not comply with Forest Plan standard). [↑](#footnote-ref-86)
86. 8642 U.S.C. §§ 4321 to 4370f; 40 C.F.R. Parts 1500-1517. For additional information about NEPA and ***oil*** and gas development, *see* Ezekiel J. Williams & Kathy L. Schaeffer, *What Every Land Professional Should Know About NEPA*, 53 *Rocky Mtn. Min. L. Inst.* 4-1 (2007). Portions of the NEPA discussion in this paper restate (and update and tailor, where appropriate) the discussions in this 2007 paper. [↑](#footnote-ref-87)
87. 8740 C.F.R. § 1508.18. [↑](#footnote-ref-88)
88. 88*Mayaguezanos por la Salud v. United States*, 198 F.3d 297, 302 (1st Cir. 1999); *see also* 40 C.F.R. § 1508.19(a), (b)(4). [↑](#footnote-ref-89)
89. 89Onshore Order No. 1 at 10,334. [↑](#footnote-ref-90)
90. 90***Kern*** *v. BLM*, 284 F.3d 1062, 1067 (9th Cir. 2002). [↑](#footnote-ref-91)
91. 91*Fuel Safe Wash. v. FERC*, 389 F.3d 1313, 1317 (10th Cir. 2004). [↑](#footnote-ref-92)
92. 9240 C.F.R. §§ 1500.4(p), 1500.5(k). [↑](#footnote-ref-93)
93. 93Additional discussion of statutory CEs with particular application to EOR operations is discussed *infra* at Section IV.F. [↑](#footnote-ref-94)
94. 9440 C.F.R. §§ 1501.4(b), 1508.9. [↑](#footnote-ref-95)
95. 95*Id.* §§ 1501.4(e), 1508.13; *City of Dana Beach v. FAA*, 485 F.3d 1181, 1189 (D.C. Cir. 2007). [↑](#footnote-ref-96)
96. 9642 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1501.4(c), (d), 1508.3, 1508.11. [↑](#footnote-ref-97)
97. 9740 C.F.R. § 1505.2. [↑](#footnote-ref-98)
98. 99*Robertson*, 490 U.S. at 350-51. [↑](#footnote-ref-99)
99. 100*See, e.g., Ilio'ulaokalani Coal. v. Rumsfeld*, 464 F.3d 1083, 1093 (9th Cir. 2006) (NEPA requires federal agencies to "'carefully weigh environmental considerations and consider potential alternatives to the proposed action before the government launches any major federal action.'") (*quoting Land Council v. Powell*, 395 F.3d 1019, 1026 (9th Cir. 2005) (emphasis added). [↑](#footnote-ref-100)
100. 101United States Government Accountability Office, National Environmental Policy Act - Little Information Exists on NEPA Analyses 14 (April 2014) (Hereinafter "2014 GAO Report"). [↑](#footnote-ref-101)
101. 1022014 GAO Report at 15. [↑](#footnote-ref-102)
102. 1032014 GAO Report at 13. [↑](#footnote-ref-103)
103. 104*See, e.g.*, BLM Right of Way Pre-Application Checklist, available at http://www.blm.gov/wo/st/en/prog/energy/cost\_recovery\_regulations/pre-application.html. [↑](#footnote-ref-104)
104. 105Onshore ***Oil*** and Gas Order No. 1, 72 Fed. Reg. 10,328, 10,330 (Mar. 7, 2007). [↑](#footnote-ref-105)
105. 10636 C.F.R. § 251.54(g). [↑](#footnote-ref-106)
106. 107*Utahns for Better Transp. v. U.S. Dept. of Transp.*, 305 F.3d 1152 (10th Cir. 2002); *see also* 40 C.F.R. § 1508.27a)(7) ("Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts."). [↑](#footnote-ref-107)
107. 10840 C.F.R. § 1508.25(a)(1). [↑](#footnote-ref-108)
108. 109*Id.* § 1508.25(a)(2). [↑](#footnote-ref-109)
109. 110*Id.* § 1508.25(a)(3). [↑](#footnote-ref-110)
110. 11140 C.F.R. § 1508.25(a). [↑](#footnote-ref-111)
111. 112*Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 894 (9th Cir. 2002); *see also Kleppe v. Sierra Club*, 427 U.S. 390, 412 (1976). [↑](#footnote-ref-112)
112. 113*O'Reilly v. U.S. Army Corps of Eng'rs*, 477 F.3d 225, 236 (5th Cir. 2007). [↑](#footnote-ref-113)
113. 114*Id.* (internal quotation marks omitted). [↑](#footnote-ref-114)
114. 115*See, e.g., Wilderness Workshop v. Bureau of Land Management*, 531 F.3d 1220, 1228 (10th Cir. 2008) ("Reviewing courts 'apply an "independent utility" test to determine whether multiple actions are so connected as to mandate consideration in a single EIS.'") (*quoting Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 969 (9th Cir. 2006)); *Utahns for Better Transp.*, 305 F.3d at 1183 (noting that the 10th Circuit applies the "independent utility" test). [↑](#footnote-ref-115)
115. 116*Great Basin*, 456 F.3d at 969; *see also Wilderness Workshop*, 531 F.3d at 1228. [↑](#footnote-ref-116)
116. 117*Id.* [↑](#footnote-ref-117)
117. 118*See, e.g., Sylvester v. U.S. Army Corps of Eng'rs*, 884 F.2d 394, 400 (9th Cir. 1989) (holding that a resort complex and golf course had independent utility because "each could exist without the other, although each would benefit from the other's presence."). [↑](#footnote-ref-118)
118. 119*Wilderness Workshop*, 531 F.3d at 1231. [↑](#footnote-ref-119)
119. 120*Id.* at 1230. [↑](#footnote-ref-120)
120. 121*Id.* at 1230. [↑](#footnote-ref-121)
121. 122*Id.* at 1231. [↑](#footnote-ref-122)
122. 12340 C.F.R. § 1508.25(a)(2). [↑](#footnote-ref-123)
123. 124BLM NEPA Manual H-1790-1 6.5.2.2 (emphasis added). [↑](#footnote-ref-124)
124. 12540 C.F.R. § 1508.28. [↑](#footnote-ref-125)
125. 126*Id.* § 1502.20. [↑](#footnote-ref-126)
126. 127*N. Alaska Envtl. Ctr.*, 457 F.3d at 975-77; *Ecology Ctr., Inc. v. U.S. Forest Serv.*, 192 F.3d 922, 923 n.2 (9th Cir. 1999). [↑](#footnote-ref-127)
127. 128*Friends of Yosemite Valley v. Norton*, 348 F.3d 789, 800 (9th Cir. 2003) (internal quotation marks omitted). [↑](#footnote-ref-128)
128. 129*See* 2006 Decision Record, Phase III/IV CO2 Enhanced ***Oil*** Recovery Project - Salt Creek ***Oil*** Field (EA WY-060-EA06-18), available at http://www.blm.gov/wy/st/en/info/NEPA/documents/cfo.html. [↑](#footnote-ref-129)
129. 130*See* 2012 Decision Record, Salt Creek Fieldwide Expansion, 2012 Update, CO2 Enhanced ***Oil*** Recovery Project (EA WY-060-EA12-206), available at http://www.blm.gov/wy/st/en/info/NEPA/documents/cfo.html. [↑](#footnote-ref-130)
130. 13140 C.F.R. § 1502.13. [↑](#footnote-ref-131)
131. 132*See Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999). [↑](#footnote-ref-132)
132. 13340 C.F.R. § 1502.14; *Ilio'Ulaokalani Coal.*, 464 F.3d at 1095. [↑](#footnote-ref-133)
133. 13440 C.F.R. § 1502.14(d); *Custer County Action Ass'n v. Garvey*, 256 F.3d 1024, 1039 (10th Cir. 2001). [↑](#footnote-ref-134)
134. 13542 U.S.C. § 4332(2)(C)(iii) (elec. 2007). [↑](#footnote-ref-135)
135. 136*N. Alaska Envtl. Ctr.*, 457 F.3d at 978. [↑](#footnote-ref-136)
136. 137*Airport Neighbors Alliance v. United States*, 90 F.3d 426, 432 (10th Cir. 1996) (quoting *Committee to Preserve Boomer Lake Park v. DOT*, 4 F.3d 1543, 1551 (10th Cir. 1993). [↑](#footnote-ref-137)
137. 138CEQ'S 40 MOST ASKED QUESTIONS, 46 Fed. Reg. 18,026, 18,026-27 (Mar. 23, 1981). [↑](#footnote-ref-138)
138. 139*All Indian Pueblo Council v. United States*, 975 F.2d 1437, 1444 (10th Cir. 1992). [↑](#footnote-ref-139)
139. 140*See, e.g., Wilderness Workshop*, 531 F.3d at 1222 (recognizing the "connected action of construction and operation of a four-acre compressor station, natural gas processing facility and associated facilities on private lands at the southern end of the pipeline.") [↑](#footnote-ref-140)
140. 141*See* CEQ'S 40 MOST ASKED QUESTIONS, 46 Fed. Reg. 18,026, 18,029 (Mar. 23, 1981). [↑](#footnote-ref-141)
141. 142*Id.* (emphasis added). [↑](#footnote-ref-142)
142. 14342 U.S.C. § 15942; *see generally* Carolyn L. McIntosh, *NEPA and the Energy Policy Act of 2005*, NEPA and Federal Land Development 6 (Rocky Mt. Min. L. Fdn. 2006). [↑](#footnote-ref-143)
143. 144*Id.* [↑](#footnote-ref-144)
144. 145*Id.* § 15942(a). [↑](#footnote-ref-145)
145. 14642 U.S.C. § 15942(b)(1). [↑](#footnote-ref-146)
146. 147*See id.* [↑](#footnote-ref-147)
147. 148*See* BLM NEPA Handbook, Handbook H-1790-1 at Appendix 2-141 (BLM Handbook), *available at* http://www.blm.gov/style/medialib/blm/wo/Information\_Resources\_Management/policy/blm\_handbook.Par.24487.File.dat/h1790-1-2008-1.pdf. This paper describes BLM guidance on the Section 390 CEs. The Forest Service has also adopted guidance on the use of the CEs, which should be consulted for operations on National Forest System Lands. *See* Forest Service Handbook 1909.15, Chapter 30 - Categorical Exclusion From Documentation, *available at* http://www.fs.fed.us/cgi-bin/Directives/get\_dirs/fsh?1909.15 [↑](#footnote-ref-148)
148. 149BLM Handbook at Appendix 2-141. [↑](#footnote-ref-149)
149. 150*Id.* [↑](#footnote-ref-150)
150. 151*Id.* [↑](#footnote-ref-151)
151. 152*Id.* at Appendix 2-142. [↑](#footnote-ref-152)
152. 153*Id.* [↑](#footnote-ref-153)
153. 15442 U.S.C. § 15942(b)(2). [↑](#footnote-ref-154)
154. 155BLM Handbook at Appendix 2-142. [↑](#footnote-ref-155)
155. 156*Id.* [↑](#footnote-ref-156)
156. 157*Id.* [↑](#footnote-ref-157)
157. 158*Id.* [↑](#footnote-ref-158)
158. 159*Id.* [↑](#footnote-ref-159)
159. 160*Id.* [↑](#footnote-ref-160)
160. 16142 U.S.C. § 15942(b)(3). [↑](#footnote-ref-161)
161. 162BLM Handbook at 2-143. [↑](#footnote-ref-162)
162. 163*Id.* [↑](#footnote-ref-163)
163. 164*Id.* [↑](#footnote-ref-164)
164. 165*Id.* [↑](#footnote-ref-165)
165. 16642 U.S.C. § 15942(b)(4). [↑](#footnote-ref-166)
166. 167BLM Handbook at 2-144. [↑](#footnote-ref-167)
167. 168*Id.* [↑](#footnote-ref-168)
168. 169*Id.* [↑](#footnote-ref-169)
169. 17042 U.S.C. § 15942(b)(5) (elec. 2007). [↑](#footnote-ref-170)
170. 171BLM Handbook at Appendix 2-144. [↑](#footnote-ref-171)
171. 172*Id.* [↑](#footnote-ref-172)
172. 17316 U.S.C. § 470f. [↑](#footnote-ref-173)
173. 17416 U.S.C. § 470i (NHPA applies to projects that require a "Federal permit, license, or approval."). [↑](#footnote-ref-174)
174. 17516 U.S.C. § 470f (the agency must comply with the NHPA "prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license"). [↑](#footnote-ref-175)
175. 176*See, e.g., Valley Community Preservation Comm'n v. Mineta*, 373 F.3d 1078, 1085 (10th Cir. 2004) (NHPA "is essentially a procedural statute and does not impose a substantive mandate") [↑](#footnote-ref-176)
176. 17736 C.F.R. Part 800. [↑](#footnote-ref-177)
177. 178Alice M. Baldrica & Melissa Meirink, *The National Historic Preservation Act's Section 106 Process, Resolving Adverse Effects on Historic Properties, and BLM's Revised Nationwide Programmatic Agreement*, Federal Regulation of Cultural Resources, Wildlife & Waters of the U.S. 2 (Rocky Mt. Min. L. Fdn. 2011). [↑](#footnote-ref-178)
178. 179BLM Manual § 6140.06.D. [↑](#footnote-ref-179)
179. 180*See Central Valley Electric Coop.*, 128 IBLA 126, 128 (1993) (stating that "'the federal grant for a pipeline right-of-way requires the Department to comply with section 106 on both the federal and non-federal lands involved in the project.") quoting Solicitor's Opinion, The Extent to Which the National Historic Preservation Act Requires Cultural Resources to be Identified and Considered in the Grant of a Federal Right of Way, 87 I.D. 27 (1979). [↑](#footnote-ref-180)
180. 181BLM Manual § 8140.06.E. [↑](#footnote-ref-181)
181. 182*See, e.g.*, 40 C.F.R. § 1505.2. [↑](#footnote-ref-182)