



# Advisory Circular DRAFT

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**Subject:** Guidance on the Extraction of Oil  
and Gas at Federally Obligated Airports

**Date:** Draft

**AC No:** 150/5100-20

**Initiated By:** APP-400

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1    1    **Purpose.**

- 2            a. This Advisory Circular (AC) discusses oil and gas development on federally  
3            obligated airport land, including any drilling that penetrates the subsurface of the  
4            airport owned land. This AC does not create new requirements for on-airport or  
5            nearby off-airport land use or development. It describes how existing FAA policy,  
6            guidance, standards, and obligations, as well as other applicable laws and  
7            regulations apply to proposed oil and gas extraction from obligated airports (both  
8            use of surface land and extraction of subsurface minerals/oil/gas).
- 9            b. An airport sponsor may propose to develop its oil and gas mineral resources and/or  
10            convey its mineral rights pursuant to an oil and gas lease for extraction. However,  
11            oil and gas well site construction and/or operation from airport surface land requires  
12            FAA approval of any proposed changes to the approved airport layout plan (ALP)  
13            prior to allowing development at an obligated airport. FAA approval of ALP  
14            changes is a major Federal action that requires FAA environmental review and  
15            approvals under the National Environmental Policy Act (NEPA).
- 16            c. In contrast, an oil and gas lease that does not allow use or access to the obligated  
17            airport surface land, but only provides extraction from well sites and infrastructure  
18            located off airport is not a use of obligated airport property. Without any access or  
19            use of the surface obligated airport land the oil and gas lease may not require any  
20            amendments, revisions, or modifications to the FAA-approved ALP. Further, such  
21            leases are not considered a release, and/or conversion, of airport dedicated property  
22            from aeronautical to nonaeronautical use. Therefore, sponsor requirements related  
23            to FAA ALP approval for on-airport construction and operation, as described in this  
24            AC, may not apply to such leases that do not involve surface disturbance, access or  
25            occupancy. However, the airport revenue use, preservation of adequate land title,  
26            and compatible land use controls are applicable, as described in Chapter 2.

- 27 d. This AC does not specifically discuss on-airport extraction of other resources, such  
28 as water; or coal, ore, sand, gravel or other solid minerals. However, the same on-  
29 airport construction, airspace and ALP change approvals apply, including the noted  
30 grant assurances, lease provisions, and planning, environmental, and safety  
31 considerations discussed in this AC.
- 32 e. Any on-airport construction or non-aeronautical land use must be subordinate to  
33 and compatible with public airport use at the obligated airport.

34 2 **Application.**

35 This AC applies to federally obligated airports that are considering on-airport oil and  
36 gas extraction. In addition, this AC addresses NEPA issues for FAA ALP approval that  
37 may be specific to hydraulic fracturing process, requirements and impacts involved with  
38 shale oil and gas extraction from airport surface land.

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**CHAPTER 1. INTRODUCTION**74 1.1 **Related FAA Guidance and Requirements.**

75 This AC does not create new requirements, but is a compilation of existing FAA  
76 guidance and requirements applicable for oil and gas extraction on or beneath airport  
77 surface land, including the following:

- 78 • FAA Order 1050.1, Environmental Impacts: Policies and Procedures
- 79 • FAA Order 5050.4, National Environmental Policy Act (NEPA) Implementing  
80 Instructions for Airport Projects
- 81 • FAA Order 5190.6, FAA Airport Compliance Manual
- 82 • FAA Order 5200.11, FAA Airports (ARP) Safety Management System (SMS)
- 83 • FAA Order JO 7400.2, Procedures for Handling Airspace Matters
- 84 • FAA AC 70/7460-1K, Obstruction Marking and Lighting
- 85 • FAA AC 150/5070-6, Airport Master Plans
- 86 • FAA AC 150/5100-17, Land Acquisition and Relocation Assistance for Airport  
87 Improvement Program (AIP) Assisted Projects
- 88 • FAA AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects  
89 Around Airports (Airport Compatible Land Use Planning)
- 90 • FAA AC 150/5200-33, Hazardous Wildlife Attractants On or Near Airports
- 91 • FAA AC 150/5200-36, Qualifications for Wildlife Biologist Conducting Wildlife  
92 Hazard Assessment and Training Curriculums for Airport Personnel Involved in  
93 Controlling Wildlife Hazards on Airports
- 94 • FAA AC 150/5370-2F, Operational Safety on Airports During Construction
- 95 • FAA's Policy and Procedures Concerning the Use of Airport Revenue (Revenue  
96 Use Policy) (64 FR 7696 February 16, 1999)
- 97 • FAA Compliance Guidance Letter (CGL) 2003-2 for Procedures for Public Notice  
98 for a Change in Use of Aeronautical Property

99 1.2 **Organization of this Advisory Circular.**

- 100 • Chapter 1, Introduction.
- 101 • Chapter 2, Sponsor Oil and Gas Development, identifies grant assurances and other  
102 existing FAA requirements that apply to on-airport oil and gas development. This  
103 chapter provides a recommended process an airport sponsor can follow when  
104 drafting and negotiating an acceptable lease/agreement for oil and gas development.  
105 Needed sponsor submittals and documentation are described for FAA acceptance of  
106 oil and gas development at obligated airports.

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- Chapter 3, FAA Review Process, provides an overview of the requirements for the FAA review of sponsor submittals. This chapter identifies existing compliance, safety, construction, planning and environmental review requirements applicable to oil and gas development at federally obligated airports.
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- Appendix A, Sponsor Recertification of Good Title / Recommended Airport Oil and Gas Lease Provisions for On-Airport Development, provides an overview of sample oil and gas lease provisions needed to ensure obligated airport compliance with grant assurances and FAA requirements.
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- Appendix B, References, provides additional resources considered in the preparation of this AC.
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**CHAPTER 2. SPONSOR OIL AND GAS DEVELOPMENT**119 2.1 **Subordination of Oil/gas Extraction to Federal-aid Obligations.**

120 On airport drilling operations, related construction, production agreements and leases  
 121 (including leases limited to extraction of oil and gas from surface well sites outside of  
 122 the airport boundary) must be subordinate to and in compliance with the airport  
 123 sponsor's federal aid grant assurance obligations<sup>1</sup> and surplus property deed restrictions  
 124 placed on the use of airport land. Airport sponsors should review their land title noting  
 125 in particular any surplus property deeds conveyed by the United States (e.g. US  
 126 military, GSA, BLM transfers) that reserved the mineral rights and deposits and are not  
 127 owned by the airport.

128 2.1.1 Airport sponsors must comply with their federal aid obligations and the restrictions  
 129 placed on the use of airport land under federal laws when considering proposals for oil  
 130 and gas development, and any subsequent operations. In particular, airport sponsors  
 131 must ensure the following:

- 132 1. any on airport oil and gas development or surface access does not conflict with  
 133 current or planned aviation uses of the airport land;
- 134 2. wells and related infrastructure meet airport design standards, and are not  
 135 obstructions to air navigation as defined in 14 CFR Part 77;
- 136 3. wells and related infrastructure are compatible development that do not create  
 137 hazardous wildlife attractants, do not create light or radio signal interference, do  
 138 not impair visibility or flight conditions and are constructed to ensure safe and  
 139 continuous public airport operations;
- 140 4. any on-airport allowable well development and related infrastructure (e.g.  
 141 permanent access roads, fencing, pipelines) must be shown on the approved ALP;
- 142 5. the well installation, development, and use conform to applicable environmental  
 143 standards as applicable; and
- 144 6. the revenue generated from leases/agreements is collected and spent in  
 145 accordance with the FAA's Revenue Use Policy and in compliance with grant  
 146 assurances #24 "Fee and Rental Structure" and #25 "Airport Revenue", and  
 147 applicable law. An acceptable lease must provide the airport at least fair market  
 148 value for the conveyed mineral rights.
- 149 7. the airport sponsor must maintain good title to the obligated airport land parcels  
 150 included in the Airport Land Inventory Map (Exhibit A).

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<sup>1</sup> Title 49 U.S.C. § 47107(a) sets forth the statutory sponsorship requirements to which an airport sponsor receiving Federal financial assistance must agree. [http://www.faa.gov/airports/aip/grant\\_assurances/media/airport-sponsor-assurances-aip.pdf](http://www.faa.gov/airports/aip/grant_assurances/media/airport-sponsor-assurances-aip.pdf)

- 151 2.1.2 An airport sponsor may propose to lease or develop mineral rights and permit the on  
152 airport development of oil or gas under the condition that the lease or production  
153 agreement will be subordinate to grant assurances, or result in any use or development  
154 incompatible with airport operations or planned aeronautical development and use. See  
155 Appendix A for recommended procedures and lease provisions for sponsor re-  
156 certification of good title.
- 157 2.2 **On-Airport Oil and Gas Development Requirements.**
- 158 2.2.1 As is the case for any proposed on-airport development or use of obligated airport land,  
159 the construction of well sites and extraction of oil and gas on obligated airport land is  
160 subject to the FAA review and approvals. Locations critical for airport use are not  
161 available for oil and gas development, and the oil and gas lease (or production  
162 agreement) must be legally subordinated to the airport sponsor's federal grant  
163 assurances and compatible with the public airport use of airport land.
- 164 2.2.2 The airport sponsor must apply adequate engineering analysis and standards to ensure  
165 that any subsurface drilling, well boring, and oil and gas extraction/production  
166 operations will not cause subsidence or adverse effects on the airport facilities or use.
- 167 2.2.3 A change in the FAA-approved airport land use for allowable oil and gas development  
168 and extraction requires an airport sponsor to submit a proposed Airport Layout Plan  
169 (ALP) change (revision, modification, or amendment of the FAA approved ALP) for  
170 environmental evaluation under the National Environmental Policy Act (NEPA).
- 171 2.2.4 BEFORE the oil and gas developer may occupy, construct, or operate on airport land,  
172 the sponsor must provide FAA an adequate submittal and request to revise or modify  
173 the approved ALP for the proposed development in compliance with FAA requirements  
174 and standards. Failure to provide required submittals to secure compliance with  
175 applicable FAA standards and requirements may, at minimum, delay approvals for  
176 development. Proceeding without advance approval may also compel the airport  
177 sponsor to incur the costs associated with rectifying any violation (in accordance with  
178 Assurance #29 paragraph b concerning removal of unapproved changes to the ALP).
- 179 2.2.5 Compliant ALP change and on-airport construction procedures apply where the  
180 proposed oil and gas lease allows well site or related infrastructure (roads, pipelines,  
181 etc.) to be constructed and operated on airport surface land. If the lease prohibits any  
182 access and surface development of airport land and extraction is limited to the  
183 subterranean lateral wellbores from off-airport well sites, the development process and  
184 corresponding lease is far less complex. Oil and gas leases that only convey extraction  
185 rights to underlying oil and gas, but do not allow any on-airport access or construction  
186 or use of airport surface land (i.e., no on-airport well sites or infrastructure allowed on  
187 airport), do not involve changes to the ALP, and/or a release, or conversion, of airport  
188 dedicated property from aeronautical to nonaeronautical use. Therefore, such leases do  
189 not involve Sections 2.4 Development Planning and Sections 2.7 through 2.10  
190 concerning FAA approvals for on-airport access and/or development.

191 2.3 **Identify Federal, State, and Local Laws and Requirements for Airport Oil and Gas**  
 192 **Development.**<sup>2</sup>

193 This section summarizes the range of current laws, regulations, and policies that apply  
 194 to on-airport oil and gas development, but is not necessarily exhaustive.

195 2.3.1 Federal Laws.

196 2.3.1.1 On-airport oil and gas drilling and production activities are treated the same  
 197 as other non-aeronautical development, and are subject to all applicable  
 198 federal laws and regulations. The airport sponsor must ensure that any non-  
 199 aeronautical development, including oil and gas development complies with  
 200 all applicable FAA airport design and construction standards, in particular  
 201 those that address storm water management and spill prevention  
 202 requirements to protect against soil and groundwater contamination. In  
 203 addition, airport sponsors must ensure compliance with FAA operational  
 204 safety and design criteria for airport operations.

205 2.3.1.2 FAA approval of proposed amendments, revisions, or modifications to ALPs  
 206 as a result of proposed oil and gas development activities would be  
 207 considered major federal actions subject to NEPA review.

208 2.3.1.3 The airport sponsor and/or oil/gas developer must undertake adequate due  
 209 diligence to ensure they identify and ensure their compliance with all  
 210 applicable statutory and regulatory requirements for their proposed  
 211 development and operations. Other Federal environmental laws cover  
 212 certain aspects of oil and gas production activities; however, there are  
 213 statutory exemptions. For example, the Clean Water Act (CWA) (33 U.S.C.  
 214 §§ 1251 to 1387) requires the treatment of flowback water that returns to the  
 215 surface from hydraulic fracturing, if such water would violate water quality  
 216 standards. Oil and gas production and well site operations, however, are  
 217 exempted from other parts of the CWA that regulate storm water discharge.  
 218 As another example, the Clean Air Act (42 U.S.C. §§ 7401 to 7671q)  
 219 contains an exemption for aggregation of emissions from oil and gas  
 220 exploration and production operations. Each well, with its associated  
 221 equipment, is considered a separate source of emissions. In yet another  
 222 example, hydraulic fracturing was specifically exempted from the Safe

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<sup>2</sup> In response to the recent increase of shale oil and gas production throughout the United States, all levels of government are studying aspects of hydraulic fracturing and have proposed or are considering new legislation and regulations. For example, the US Department of Interior issued a final rule (“*Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands, Final Rule*” 80 Federal Register 58 (26 March 2015) pp. 16128) that updated well drilling requirements on Federal and Tribal land concerning well integrity, ground water protection and public disclosure of chemicals used in hydraulic fracturing. Given the dynamic nature of the legislative and regulatory landscape concerning hydraulic fracturing, the current legal environment should be carefully examined.

223 Drinking Water Act (42 U.S.C. §§ 300f to 300j-26) pursuant to the Energy  
224 Policy Act of 2005 (Pub. L. 109-58), unless the fracturing fluids contain  
225 diesel fuel.

226 2.3.2 State and Local Laws.

227 2.3.2.1 State law controls the permitting of oil and gas exploration and production,  
228 while local laws and regulations typically control land use, zoning,  
229 environmental for site development and set back requirements. Airport  
230 sponsors and oil/gas developers should identify applicable state and local  
231 laws, ordinances, and regulations concerning oil and gas permitting,  
232 development and operations as early in the process as possible.

233 2.3.3 Airport Federal Financial Assistance Obligations.

234 2.3.3.1 As a condition precedent to providing airport development assistance under  
235 the Airport Improvement Program, 49 U.S.C. § 47107, et seq., the Secretary  
236 of Transportation and, by extension, the FAA must receive certain  
237 assurances from the airport sponsor (see  
238 [http://www.faa.gov/airports/aip/grant\\_assurances/](http://www.faa.gov/airports/aip/grant_assurances/)).

239 2.3.3.2 An airport sponsor's federal financial assistance obligations apply whether  
240 they have originated under the Federal Aid to Airports Program (FAAP), the  
241 Airport Development Aid Program (ADAP), or under the current Airport  
242 Improvement Program (AIP). Additionally, an airport may be federally  
243 obligated by surplus and non-surplus property (deed) conveyances.

244 2.3.3.3 Among other requirements the sponsor's grant assurances provide that:

245 2.3.3.3.1 The sponsor maintains adequate right, title and interest to airport land for  
246 the use, maintenance and development of airport property in compliance to  
247 FAA requirements.

248 2.3.3.3.2 The sponsor may not sell, lease, encumber, or otherwise transfer or dispose  
249 of any part of its title or other real property interests in obligated land  
250 parcels shown on the Airport Property Inventory Map (Exhibit A) without  
251 FAA approval.

252 2.3.3.3.3 The sponsor must continually ensure that it will not cause or permit any  
253 activity or action thereon which would interfere with its use of airport land  
254 for airport purposes. An acceptable oil and gas lease must be legally  
255 subordinated to the sponsors grant assurances.

256 2.3.3.3.4 The design, construction, and operation of the gas/oil development project  
257 and related improvements shall not create a hazard.

- 258 1. In particular the use of ponds (on and off airport) and waste water  
 259 management due to hydraulic fracking of wells shall not create a  
 260 hazardous wildlife attractant to the airport.
- 261 2. Hazardous wildlife and criteria for hazardous wildlife attractants are  
 262 defined in FAA Advisory Circular (AC) 150/5200-33, Hazardous  
 263 Wildlife Attractants on or Near Airports. All design, construction, and  
 264 operation of the facility and all facility components shall comply with  
 265 FAA AC 150/5200-33.
- 266 3. FAA AC 150/5200-33 advises a 5,000 or 10,000 foot separation distance  
 267 between the airports air operations area and a hazardous wildlife  
 268 attractant. Additionally, it is recommended that a 5-mile separation  
 269 distance be considered when the attractant could cause wildlife  
 270 movement into or across the approach or departure airspace.<sup>3</sup>
- 271 4. In cases where a wildlife biologist is consulting on wildlife management  
 272 and hazard elimination, the wildlife biologist must meet the  
 273 qualifications identified in FAA AC 150/5200-36, Qualifications for  
 274 Wildlife Biologist Conducting Wildlife Hazard Assessments and  
 275 Training Curriculums for Airport Personnel Involved in Controlling  
 276 Wildlife Hazards on Airports.
- 277 2.3.3.3.5 The fair market value (FMV) of mineral rights and any surface land use  
 278 conveyed shall be paid to the airport. An acceptable oil and gas lease must  
 279 secure FMV payments to the airport of the “paid-up”<sup>4</sup> lease signing bonus,  
 280 oil and gas royalties, any production delay payments and rents, and the rent  
 281 of any surface lands for nonaeronautical purposes (e.g., FMV rent paid for  
 282 well site and supporting infrastructure i.e. access roads, pipeline and utilities  
 283 lines serving well sites).
- 284 2.3.3.3.6 The sponsor must ensure the revenues generated from oil and gas extraction  
 285 will be retained for airport, airport system, and/or aviation system uses in  
 286 accordance with applicable statute and the revenue use policy.<sup>5</sup>

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<sup>3</sup> Note that some states have regulations for controlling wildlife and attractants at airports.

<sup>4</sup> A “paid-up” lease is a common term in oil and gas leases, in which the lump sum delay rentals for the primary lease period, is paid at the commencement of the lease. See Appendix A, section A.2 for description of a common “paid-up” oil and gas lease conveyance.

<sup>5</sup> Note that the FAA Modernization and Reform Act of 2012 (PL. 112-95, Section 813) required the FAA to develop procedures to permit certain general aviation airports to use revenue generated by mineral extraction, production, or lease subject to certain conditions. These procedures were published May 16, 2012 and the toolkit including this guidance is available on the FAA’s Airport Compliance website at [http://www.faa.gov/airports/airport\\_compliance/mineral\\_revenue/](http://www.faa.gov/airports/airport_compliance/mineral_revenue/).

287 2.3.3.3.7 The sponsor must submit proposed amendments, revisions, or modifications  
288 to the ALP to FAA for approval, prior to altering the use of airport land  
289 designated for an aeronautical use to a nonaeronautical use or constructing  
290 above grade structures, such as well sites and supporting infrastructure.  
291 Please note when an airport sponsor wishes to change on airport land use  
292 from aeronautical to nonaeronautical, the airport sponsor is required to  
293 comply with applicable public notice requirements. (See FAA Order  
294 5190.6).

## 295 2.4 **Development Planning.**

296 2.4.1 To ensure acceptable on-airport oil and gas extraction development and operations  
297 sponsors should coordinate with their local FAA Airports District or Regional offices  
298 early in the planning stages.

299 2.4.2 Most importantly, oil and gas lease legal descriptions and development plans must  
300 prevent access or development from areas on the airport that would interfere with  
301 current or future aeronautical development or operations. Prior to drafting or  
302 negotiating a lease, airport sponsors must determine where oil and gas drilling and  
303 related activities may and may not occur on airport land. There are areas of the airport  
304 that cannot be drilled on due to height restrictions, current operations, or current or  
305 future airport development. Airport sponsors must maintain the airfield operations area  
306 (AOA), runway and taxiway safety areas and object free areas, runway protection  
307 zones, and obstacle free zones defined in AC 150/5300-13 (current edition) free of oil  
308 and gas development.

309 2.4.3 Given potential damage to airport facilities and public airport use, the permitting of  
310 geophysical exploration involving the use of explosive charges is not allowable on  
311 airport land. Geophysical exploration activities involving on-airport heavy equipment  
312 (thumper trucks, bulldozers, etc.) and any clearing and grading work to access and  
313 occupy airport land for geophysical exploration must be assessed and approved with  
314 submittal of a Construction Safety Staging Plan (CSPP) to FAA (see section 2.7.1.1).

315 2.4.4 As applicable, airport sponsors must notify the FAA Airports Regional or District  
316 Office early in the planning process to determine the need or requirements for Safety  
317 Risk Management (SRM). Safety Management System (SMS) and SRM principles  
318 apply to any oil and gas extraction proposals that could affect safe airport operations.  
319 FAA SRM procedures are described by Order 5200.11, FAA Airports (ARP) SMS. In  
320 accordance with this Order, SRM may be required prior to FAA review and approval of  
321 any proposed amendment of an ALP that includes oil and gas extraction facilities.

## 322 2.5 **Draft Acceptable Oil and Gas Lease.**

323 The airport sponsor must develop and draft its proposed oil and gas lease to incorporate  
324 the airport safety and design standards, environmental controls, and all other necessary  
325 terms and conditions necessary to adequately protect and ensure continued compliant

326 aeronautical use. Lease provisions must subordinate the lease and mineral rights  
327 conveyed to the sponsors existing and future grant assurances.

328 Because it permits unrestricted access, a standard oil and gas lease that may be offered  
329 by an oil and gas company would not be acceptable. An acceptable airport oil and gas  
330 lease must restrict airport access and well site placement to protect airport operations  
331 and ensure compliance with the airport's federal aid obligations.

## 332 2.5.1 Recommended Oil and Gas Lease Terms and Conditions.

333 2.5.1.1 The airport sponsor must maintain adequate control over the surface use of  
334 airport land for aeronautical use at all times. As described below, the  
335 required lease terms and conditions depend on whether the oil and gas lease  
336 proposes on-airport development or only proposes the sale of the minerals  
337 without any on-airport construction or permanent development, e.g., an  
338 under-the-Fence Lease. Appendix A provides a general discussion of lease  
339 requirements and sample recommended lease terms (section A-4) and  
340 conditions for an acceptable oil and gas lease to ensure compatible surface  
341 use of airport land. Airport sponsors should engage legal counsel to develop  
342 and negotiate oil and gas leases and proposals compliant with the sponsor's  
343 grant assurances.

### 344 2.5.1.2 **Lease Allows On-Airport Development.**

345 If on-airport development is part of a proposed oil and gas lease, the oil and  
346 gas lease must be expressly subordinated to the airport use of the obligated  
347 land. Construction, occupancy and/or use of airport surface land for oil and  
348 gas development and operations requires an ALP change, which in turn  
349 requires an evaluation of environmental impacts of the proposed oil and gas  
350 development under NEPA. Lease terms must provide for compliance to  
351 FAA requirements and lease execution must be conditional on FAA ALP  
352 approval and applicable NEPA compliance (see sections 2.7 and 2.9 below  
353 for FAA ALP approval requirements).

### 354 2.5.1.3 **Under the Fence Only Lease (i.e. no on-airport access or development).**

355 With an "under-the-fence" lease the oil and gas lease explicitly precludes  
356 access, occupancy, or use rights to any of the airport surface land. The ALP  
357 will not be changed given oil and gas extraction or any development will not  
358 occupy airport surface land.

359 2.5.1.3.1 If exploration activities are to be allowed on airport surface land, adequate  
360 lease terms are required to restrict access and ensure no conflict with airport  
361 operations (see paragraph 2.7.1 for restrictions on geophysical exploration  
362 activity on airport surface land).

363 2.5.1.3.2 Under-the-fence leases still require FMV payments to the airport in  
364 compliance with the Revenue Use Policy, applicable statute and off airport  
365 airspace clearance (14 CFR Part 77).

366 2.5.2 Draft Lease Submittal to FAA.

367 FAA review of an oil and gas lease prior to entering into it can help the  
 368 sponsor ensure that they will continue to meet applicable grant assurances.  
 369 The items described below are to be submitted to the FAA prior to lease  
 370 solicitation to ensure the proposed lease if executed conforms to FAA grant  
 371 assurances.

372 2.5.2.1 **Sponsor Re-certification of Good Title (Grant Assurance 4).**

373 2.5.2.1.1 An oil and gas lease is a sale of the mineral rights that encumbers an airport  
 374 sponsor's title to airport land. Prior to solicitation of an oil and gas lease, an  
 375 airport sponsor's attorney must re-certify to FAA that the airport retains  
 376 good title in all airport land for public use airport purposes (landing area,  
 377 etc.).

378 2.5.2.1.2 The re-certification requires the airport sponsor's attorney to review the  
 379 proposed lease documents, the proposed construction of oil and gas wells  
 380 and facilities, and changes to the ALP to ensure the airport sponsor has the  
 381 right to enforce lease restrictions and meet FAA requirements. The airport  
 382 attorney's certification must be explicit that the lease restrictions are  
 383 enforceable under state law and that the airport maintains good title for  
 384 public airport purposes.

385 2.5.2.1.3 Appendix A, Section A.3. provides guidance for the sponsor's attorney to  
 386 review oil and gas lease terms to ensure the airport maintains acceptable  
 387 title to surface land in compliance to its Federal assurances of an obligated  
 388 airport.

389 2.5.2.2 **Fair Market Value (FMV) Documentation.**

390 2.5.2.2.1 Competitive Bid / Request for Proposal.

391 The proposed solicitation should be submitted to FAA for review. The  
 392 solicitation and bid items must reflect at least FMV payment levels and  
 393 terms for the proposed oil and gas lease or development agreement. The  
 394 solicitation and bid will also need to include at least FMV ground rents for  
 395 any use of surface lands (e.g. well sites, roads, pipelines, other infrastructure  
 396 or facilities allowable for occupancy on airport land.)

397 2.5.2.2.2 Negotiated Lease Payment.

398 Leases must be shown to require at least FMV lease and royalty payments to  
 399 the airport as well as surface land rents. Where the airport has not sought or  
 400 had not received adequate competitive bids, an appraisal report and  
 401 determination of the FMV lease payments and royalty rates may be  
 402 required. Appraisal report documentation must meet American Petroleum  
 403 Institute and the Securities and Exchange Commission requirements for  
 404 description and valuation of oil and gas reserves, as well as other applicable

405 appraisal standards. See Airport Appraisal Compliance Guidance Letter  
406 (CGL) for sample appraisal scope of work.

407 2.5.2.2.3 Payment Terms and Revenue Use.

408 The oil and gas lease must provide at least FMV payment terms. As noted  
409 in the Interim Guidance on Mineral Extraction and Request for Data Update,  
410 dated August 24, 2012, the FAA Modernization and Reform Act of 2012  
411 (PL 112-95, Section 813) requires the FAA to permit certain general  
412 aviation airports to use revenue generated by mineral leases, production, or  
413 lease for eligible transportation infrastructure projects, subject to certain  
414 conditions.<sup>6</sup>

415 2.6 **Lease Solicitation.**

416 2.6.1 Solicitations for oil and gas leases must meet all applicable federal, state and local  
417 procurement laws and requirements. Leases may be offered for competitive bid with  
418 disclosure of all lease terms and conditions required by the FAA and the airport. Where  
419 lease and royalty payments are negotiated with the developer adequate valuation  
420 documentation must be secured to support that payments are at FMV, as described  
421 above in section 2.5.2.2.2.

422 2.6.2 Notice in the RFP must provide that FAA ALP and airspace approvals are required  
423 prior to construction of well sites or supporting infrastructure on the airport.

424 2.6.3 The airport sponsor would have to remove or modify any unapproved oil and gas  
425 development on airport land in order to secure compliance with grant assurances and  
426 applicable FAA requirements.

427 2.7 **ALP Change Submittal for FAA Approval of Proposed On-Airport Oil and Gas  
428 Development.**

429 Allowable geophysical exploration, well sites and supporting infrastructure  
430 development for on-airport oil and gas production require an ALP change with requisite  
431 FAA approvals. The sponsor must develop the well site plan with future airport  
432 development in mind to ensure appropriate aeronautical uses take precedence over non-  
433 aeronautical uses such as oil and gas extraction activities. To avoid segmentation under  
434 NEPA, the NEPA review of proposed ALP changes needs to evaluate as much of the  
435 foreseeable oil and gas development as possible for the ALP decision required prior to  
436 project implementation.

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<sup>6</sup> See toolkit available at [http://www.faa.gov/airports/airport\\_compliance/mineral\\_revenue/](http://www.faa.gov/airports/airport_compliance/mineral_revenue/)

437 2.7.1 On-Airport Oil and Gas Geophysical Exploration.

438 2.7.1.1 The sponsor must escort all exploration crews at all times while on airport  
439 property to ensure safe airport operating conditions are maintained. If this is  
440 not possible, then the exploration contractor / developer must prepare a  
441 Construction Safety Phasing Plan (CSPP) for submittal to FAA. Approval  
442 of the CSPP for a developer to proceed with work is the airport sponsor's  
443 responsibility (see section 2.7.2 below).

444 2.7.1.2 If there is significant disturbance of on or off airport environmental  
445 resources (e.g. wetlands, habitat, historical or cultural resources, etc.) for  
446 exploration to locate on airport well sites, the exploration work may be  
447 considered a connected action for the NEPA evaluation described below in  
448 Section 2.7.3.3.

449 2.7.2 Well Site Construction Safety Phasing Plan (CSPP) Submittal.

450 2.7.2.1 All construction proposed for well drilling, site development and associated  
451 infrastructure must be submitted in the form of a CSPP to FAA for review  
452 and airspace determination. The CSPP should be prepared by the proposed  
453 lessee/developer in accordance with AC 150/5370-2, Operational Safety on  
454 Airports during Construction (current edition), for review and approval by  
455 the airport sponsor, and submitted to the FAA for airspace determination.  
456 The sponsor may submit the CSPP to FAA on line at [oeaaa.faa.gov](http://oeaaa.faa.gov). The  
457 completed CSPP must include but not be limited to the following:

- 458 • Emergency/Fire/Medical Response
- 459 • Blowout Response
- 460 • Stormwater runoff management
- 461 • Spill Control Prevention and Countermeasure Plan (SPCC)
- 462 • Disposal and containment of hazardous materials
- 463 • Compliance with federal, state and local airport rules and regulations
- 464 • Wildlife and uncovered ponds and waterway management
- 465 • Airport areas and operations affected by the construction activity
- 466 • Personnel and vehicle access
- 467 • Foreign Object Debris (FOD) management
- 468 • Haul routes, roads and excavation material storage and management
- 469 • Notification of construction activities (Form 7460-1) per 14 CFR Part  
470 77 "Safe, Efficient use and Preservation of Navigable Airspace".
- 471 • Site monitoring, inspection and enforcement responsibilities.

- 472                                   • AC 150/5370-2F Appendix 3. Safety and Phasing Plan Checklist must  
 473                                   be consulted with to include the appropriate provision that is relevant to  
 474                                   the location of the oil and gas extraction project at the airport.

475   2.7.3   Proposed ALP Change.

476           2.7.3.1   The ALP must show for FAA approval at (or before) lease execution, the  
 477                   proposed location of all well sites and related above-ground structures and  
 478                   related access and support right of way. A separate drawing sheet depicting  
 479                   subsurface horizontal lines and/or reference to well permits (when issued)  
 480                   should be maintained by the lessee and the airport sponsor, but is not  
 481                   required to be submitted to FAA as part of the ALP drawing set.  
 482                   Conditional approvals of such proposed ALP changes may be performed, at  
 483                   (or before) lease execution, prior to the FAA undertaking its review of  
 484                   potential environmental impacts under NEPA, and final ALP approval.

485           2.7.3.2   The proposed ALP change must identify the current location and elevation  
 486                   of any facilities affected by the proposed gas or oil production plan (e.g.,  
 487                   aeronautical or non-aeronautical). The submittal must indicate how the land  
 488                   occupied by well site and supporting infrastructure was acquired and any  
 489                   federal funding invested in airport buildings or site improvements affected  
 490                   by the oil and gas development (e.g., if federally funded fencing is to be  
 491                   relocated, or gate and access road installed). The ALP should identify any  
 492                   impacts to current and future planned uses and how such impacts would be  
 493                   accommodated and mitigated. Additional modification to the ALP may be  
 494                   required when specific well sites are to be constructed (see section 2.9).

495           2.7.3.3   **Environmental Evaluation.**

496           2.7.3.3.1   NEPA review must be completed in accordance with CEQ's NEPA  
 497                   regulations and FAA Orders 1050.1 and 5050.4 at the time of FAA's  
 498                   decision on a major federal action, such as an ALP change (see FAA Order  
 499                   5050.4B, paragraph 9.g.(3) and Section 202). The FAA will determine the  
 500                   appropriate level of environmental review and NEPA documentation based  
 501                   on the facts and circumstances of each proposed oil and gas operation. If an  
 502                   Environmental Assessment is the level of NEPA required, the airport  
 503                   sponsor will take the lead in preparing the NEPA documentation. If an  
 504                   Environmental Impact Statement is required, the FAA will take the lead in  
 505                   preparing the NEPA documentation.

506           2.7.3.3.2   When the well site locations and supporting infrastructure are known and  
 507                   designed, the changes to the ALP can be clearly defined for FAA review  
 508                   and a NEPA document should be prepared for an unconditional ALP  
 509                   approval.

510           2.7.3.3.3   However, final designs and construction dates of individual well sites on  
 511                   airport property may not be known at lease execution, to allow for

512 unconditional approval. Conditional approval can be provided at or prior to  
 513 lease execution. Conditional ALP approval should be based on as much  
 514 information about the proposed oil and gas development as possible, with  
 515 the anticipation that supplemental details for final well site design and  
 516 location will be included in the NEPA review prior to unconditional ALP  
 517 approval.

518 **Note:** Conditional approval “signals that... The proposed ALP depicts  
 519 features that are safe and efficient for airport operations and airport use.”  
 520 (FAA Order 5050.4b 202(c) (1) (a)). When a conditional ALP approval is  
 521 given, the approving FAA official has not authorized the airport sponsor or  
 522 project proponent to begin building the facilities shown on the conditionally  
 523 approved ALP. The sponsor or proponent may start building those facilities  
 524 after lease execution only after the FAA completes its environmental  
 525 analysis of those facilities and the approving FAA official issues an  
 526 unconditional approval of the ALP depicting those facilities (see section  
 527 2.9).

#### 528 2.7.3.4 **Content of NEPA Documents for On-airport Oil/Gas Development.**

529 2.7.3.4.1 NEPA documents must, as applicable, describe the entire lifecycle of  
 530 proposed oil and gas operations including exploration activities,  
 531 construction schedule and methods, facilities for development and  
 532 production, and plans for well closure. It should also state that on-airport  
 533 development of oil and gas production is subordinated to the airport use of  
 534 the obligated land, including restricted access and adherence to FAA  
 535 requirements for on-airport construction and non-aeronautical operations.

536 2.7.3.4.2 Adequate description of the proposed development and facilities includes,  
 537 but is not limited to:

- 538 • Access roads
- 539 • Well site and site preparation design proposed,
- 540 • Drilling and extraction methodologies to be employed,
- 541 • Water and fracturing fluid source, preparation and storage,
- 542 • Hydraulic fracturing details including geologic strata and drilling  
 543 depths,
- 544 • Collection, handling, and proper disposal of flow-back and waste water,
- 545 • Pipeline infrastructure for collection of oil and gas,
- 546 • Provision for storage, compression, transport and delivery of oil/gas to  
 547 market, and
- 548 • Disclosure of other relevant processes and facilities that may have  
 549 impacts to the airport or environmental resources.

- 550 2.7.3.4.3 In addition to the standard components of an FAA NEPA evaluation  
 551 stipulated in Order 5050.4, it may be necessary to cross reference or include  
 552 as appendices components of the sponsor's approved CSPP, such as the  
 553 spill prevention, containment, and counter measures plans. The need for  
 554 compliance monitoring or maintenance procedures should be explained in  
 555 the NEPA document, along with anticipated well closure and site  
 556 reclamation. Proposed oil and gas projects are likely to involve collector  
 557 pipelines, which will have distinct considerations with regard to  
 558 construction and maintenance, such as clearing, trenching, stringing of pipe,  
 559 grading, and right-of-way maintenance.
- 560 2.7.3.4.4 FAA policies for evaluating noise recognize that there are settings where  
 561 the 65 DNL standards for noise measurement may not apply. Noise  
 562 analysis and impact evaluation for mineral extraction is one of these  
 563 potential circumstances.
- 564 1. For mineral extraction projects, the responsible FAA official will  
 565 determine the appropriate noise assessment criteria based on specific  
 566 uses in that area. Hydraulic fracturing projects should expect noise  
 567 impacts 1) from construction activities at the well pad, impoundment,  
 568 pipeline, and access road sites including drilling and fracturing, and 2)  
 569 from operation of the well pad sites including compressor stations and  
 570 truck traffic traveling to and from the sites. Noise from drilling rigs  
 571 should be treated as stationary construction noise, and the guidance on  
 572 construction noise from non-aviation sources in Order 5050.4 and its  
 573 companion Environmental Desk Reference for Airport Projects should  
 574 be followed. Additionally, there may be state or municipal construction  
 575 noise ordinances that apply. In general, noise analysis should compare  
 576 ambient noise levels to estimated construction noise levels at various  
 577 distances from the source of the noise.
  - 578 2. For hydraulic fracturing projects, drill rigs are generally in operation  
 579 around the clock and 7 days a week. The estimated time to drill a single  
 580 well is 15 – 20 days, with another 7 – 10 days for the hydraulic  
 581 fracturing process after the drilling is complete. NEPA documents will  
 582 be able to discuss this as construction noise.
  - 583 3. If mitigation such as sound barriers cannot bring estimated noise to a  
 584 less than significant level, or if finer resolution assessment of noise  
 585 levels is needed, noise modeling may be required or an EIS may need to  
 586 be prepared.
  - 587 4. If the NEPA review establishes environmental mitigation commitments  
 588 to reduce potential impacts below a threshold of significance, such as the  
 589 use of sound barriers, these measures will be reiterated in the FAA  
 590 FONSI and/or FONSI/ROD, and/or ROD and must be stipulated in the  
 591 subsequent lease terms.

592 2.7.3.4.5 The public involvement requirements of FAA Order 5050.4 will apply to  
593 EAs and EISs for gas and oil extraction, and actions to meet applicable  
594 public involvement requirements should be clearly demonstrated in the  
595 NEPA document.

596 2.8 **Sponsor Executes Lease.**

597 2.8.1 The sponsor may execute an oil and gas lease or development agreement in  
598 conformance with the applicable FAA requirements and upon conditional ALP  
599 approval, as described above. For actual on-airport construction and development the  
600 lease must be contingent on sponsor authorizations to proceed, which authorization may  
601 only be given subsequent to unconditional FAA ALP approval described below in  
602 Section 2.9.

603 2.9 **Well Site Construction Approvals.**

604 2.9.1 As provided under an acceptable oil and gas lease, the airport sponsor must retain  
605 approval authority for each individual well prior to drilling, regardless of whether the  
606 state, county, or municipality issues individual well permits for drilling. The airport  
607 sponsor's approval is contingent on FAA's ALP approval following an environmental  
608 determination for the proposed on airport well site.

609 2.9.2 Well Site Form 7460 / ALP Approval. The sponsor must approve each individual well  
610 prior to well site construction and drilling. Per acceptable lease provisions (see  
611 appendix A, section A.4) the airport sponsor's construction inspection and controls are  
612 required to permit the on-airport well site construction, drilling, hydraulic fracturing,  
613 and operations. Approved well sites must be shown on the ALP and/or the revised ALP  
614 approved by FAA prior to construction.

615 2.9.3 For the FAA ALP approval, the following submittals are required prior to on-airport  
616 well site construction and operation. The FAA approval process will consider all  
617 individual well site activities including on-airport construction, drilling of the well(s),  
618 hydraulic fracturing, oil and gas production, and reclamation/restoration/well closure.

619 2.9.3.1 **Supplemental NEPA Environmental Analysis.**

620 Subsequent to the issuance of a FONSI, FONSI/ROD, or ROD approving of  
621 a mineral extraction project if the proponent of such project seeks to alter  
622 the plans for conducting such project, as presented in the pertinent NEPA  
623 document, as subsequent NEPA environmental analysis must be undertaken.  
624 Subsequent review and approvals will be treated as written supplement or  
625 re-evaluations as applicable in accordance with Order 5050.4. In this event,  
626 the airport sponsor should notify the FAA as soon as possible about any  
627 changes. The FAA will determine the appropriate level of environmental  
628 review and NEPA documentation required based on the facts and  
629 circumstances of each proposed change and the extent of previous review.

- 630           2.9.3.2    **Form 7460-1 Airspace/Construction Notifications.**  
631                   Form 7460-1 must be submitted to the FAA by owner/operators for any  
632                   proposed facilities on airport owned property that will be above grade.  
633                   Form 7460-1 must be received at least 45 days prior to oil and gas  
634                   developers erecting drilling rigs or other towering structures. The sponsor  
635                   and owner/operator of any identified FAA system or facility should agree to  
636                   the advance notification time of construction activities and delineate it in the  
637                   CSPP in order to address or mitigate any impact caused by drilling activity.  
638                   The oil and gas developer/driller must complete a Safety Plan Compliance  
639                   Document (SPCD) for all construction on airport property and submit the  
640                   plan to the Sponsor. The Airport Sponsor must approve the CSPP and the  
641                   SPCD prior to issuance of a notice-to-proceed/construction. Form 7460 and  
642                   other airspace notification requirements may be submitted to FAA on-line at  
643                   oeaaa.faa.gov.
- 644    2.10    **Interim Well Site Reclamation.**  
645                   Once the well has been drilled, the sponsor may want the oil and gas company to  
646                   conduct interim reclamation to minimize the footprint of disturbance by the well site.  
647                   The portions of the cleared well pad site that are not needed for operational and safety  
648                   purposes can be re-contoured to blend with the surrounding area. This area can then be  
649                   re-vegetated within a few feet of production facilities.
- 650    2.11    **Well Closure and Reclamation.**
- 651    2.11.1    The well closure and site restoration must be done in accordance with the regulatory  
652                   requirements of the state and local agency with jurisdiction over oil and gas production.  
653                   Upon well closure, the airport should secure a “clean closure” or “no further action”  
654                   letter from the state regulatory agency.
- 655    2.11.2    The reclamation process will involve a certain amount of reconstruction efforts to  
656                   restore property to previous operational standard. The airport sponsor will once again  
657                   approve a CSPP as part of the well closure and reclamation process. Details for the  
658                   CSPP can be obtained from AC 150/5370-2F, Operational Safety on Airports During  
659                   Construction.
- 660    2.11.3    Once a well site has been closed and abandoned, the airport sponsor must submit the  
661                   corresponding changes to the ALP and must reference reclamation requirements.
- 662    2.11.4    Well closure and reclamation activities should be anticipated and addressed in any  
663                   NEPA documentation completed during the development of the oil and gas production  
664                   planning process. If conditions have changed substantially, or there is significant new  
665                   information relevant to environmental concerns, additional review of closure activities  
666                   and/or ALP changes may be required.

667 2.12 **Best Management Practices.**

668 2.12.1 Best management practices in oil and gas development can improve technical and  
669 operational efficiency while ensuring safety and environmental protection. Best  
670 management practices are actions that most efficiently, practically, and cost-effectively  
671 accomplish the task of oil and gas development with the least amount of associated  
672 impacts. With respect to oil and gas operations, best management practices can vary  
673 based on differences in geology, land use, water resources, and regulations. Since the  
674 unconventional development of oil and natural gas resources are a rapidly growing and  
675 evolving set of practices and the environmental impacts are not fully understood, best  
676 management practices are still being developed. Airport sponsors are encouraged to  
677 identify those best management practices that could be effectively implemented with  
678 respect to the proposed oil and gas operations. Applicable best management practices  
679 may also be used as mitigation measures contained within the NEPA documentation.

680 2.12.2 For more information on best management practices in the context of shale gas  
681 production, see Department of Energy, Secretary of Energy Advisory Board, Shale Gas  
682 Production Subcommittee 90-Day Report, August 18, 2011; Second Ninety Day Report,  
683 November 18, 2011.

684

**CHAPTER 3. FAA REVIEW**685 3.1 **FAA Review Standards.**

686 The FAA Airport District Office or Region will review the sponsor submittals described  
 687 in Chapter 2 for compliance with FAA requirements. Existing standard operating  
 688 procedures for needed FAA approvals/acceptances/rejections (compliance, airspace and  
 689 on airport construction, planning) may be applied with adequate coordination and  
 690 assistance provided sponsors for acceptable submittals as described in this AC.

691 3.2 **Oil and Gas Lease / Agreement Compliance Reviews.**

692 3.2.1 The FAA will review the sponsor's attorney's re-certification of title (see section  
 693 2.5.2.1 and Appendix A, section A.3) that the proposed gas/oil lease and/or proposed oil  
 694 and gas production agreement and plan incorporate sufficient restrictions for the  
 695 sponsor to maintain compliance with its federal aid obligations and assurances.

696 3.2.2 Please refer to CGL 2003-2 for Procedures for Public Notice for a Change in Use of  
 697 Aeronautical Property. A Federal Register Notice is required when there is a change  
 698 from aeronautical use to non-aeronautical use of (1) federal surplus property (47151(d)),  
 699 (2) non-surplus property (47125), or (3) property purchased with federal assistance  
 700 (47107(h)). In addition, environmental notices must be filed in the Federal Register.  
 701 Notice is not required for a release of aeronautical property that is part of a major  
 702 environmental action in which public notice and comment is an integral part of the  
 703 environmental review.

704 3.2.3 An under the fence lease, with no surface access or development or impact to  
 705 airport/aeronautical use is a concurrent use and not a release or change in use.

706 3.3 **Airspace, Safety and Construction Reviews.**

707 3.3.1 Proposed on airport construction and operations will be processed as any other proposed  
 708 development on airport. Form 7460 and other airspace notification requirements may  
 709 be submitted on-line at [oeaaa.faa.gov](http://oeaaa.faa.gov).

710 3.3.2 The Construction Safety Phasing Plan (CSPP) must be prepared by the lessee/developer  
 711 in accordance with AC 150/5370-2F, Appendix 3 (current edition) for review and  
 712 approval by the Airport and submitted to the FAA for the airspace determination. The  
 713 CSPP may be submitted on-line at [oeaaa.faa.gov](http://oeaaa.faa.gov).

714 3.3.3 As applicable, FAA will review the Safety Risk Management program amendments to  
 715 accommodate the proposed gas and oil development (see Section 2.4.3)

- 716 3.4 **Airport Layout Plan (ALP) Change.**
- 717 3.4.1 For oil and gas well sites and related facilities if any component of the operation is to be  
718 located on airport property (See AC 150/5070-6, paragraph 1002), sponsors should  
719 show all components of the gas/oil production process even if only one component is  
720 actually on airport property and the remainders are off of airport property. Accurate  
721 representation of the facilities on the ALP will eliminate confusion about the planned  
722 location for the various components of the system.
- 723 3.4.2 The following oil/gas well site and supporting facilities should be included on the ALP:
- 724 1. Well site
- 725 2. Well heads, including injection wells should be indicated
- 726 3. Tanks (Storage, compression, wastewater, etc)
- 727 4. Fracturing fluids storage pits and ponds and/or impoundments
- 728 5. Dehydrator and compressor stations
- 729 6. Buildings or facilities
- 730 7. Collector oil and gas pipelines
- 731 8. Fracturing fluid pipelines
- 732 9. Utilities lines/right of way serving the well site
- 733 10. Gas Transmission lines
- 734 11. Workspaces
- 735 12. Other structures affiliated with the project as applicable
- 736 3.4.3 Proposed or planned on-airport oil/gas extraction operations often cannot specify the  
737 exact location of facilities until the exploration phase is complete. In these cases, the  
738 sponsor must show the proposed areas for oil/gas extraction on the land use drawings  
739 and label the known components that would be located in each area. Note that this may  
740 result in a “conditional” ALP approval until additional details of the production plans  
741 are better known and an “unconditional” ALP can be approved (see section 3.5 below).
- 742 3.4.4 ALP change considerations for well site closure are described in section 2.11.
- 743 3.5 **FAA NEPA Evaluations for ALP Change Approval.**
- 744 3.5.1 The FAA ALP change approval for oil/gas well sites and supporting construction on  
745 airport land is a major Federal action and environmental review to meet requirements of  
746 NEPA as described in FAA Orders 1050.1 and 5050.4 is required.
- 747 3.5.2 If the locations of the well sites are known, and changes to the ALP can be clearly  
748 defined to show all development infrastructures, a NEPA document should be prepared  
749 for an unconditional ALP approval.

- 750 3.5.3 If significant impacts are anticipated from proposed oil or gas development project, or  
751 an environmental assessment (EA) finds there may be significant impacts which cannot  
752 be mitigated to reduce such impacts below applicable significance thresholds, an  
753 environmental impact statement (EIS) will be necessary to satisfy NEPA requirements.  
754 While EAs may be prepared by sponsors, preparation of an EIS must be directed by the  
755 FAA. In these circumstances airport sponsors should coordinate with FAA staff on how  
756 best to proceed with environmental review.
- 757 3.5.4 If an EA finds no significant impacts, the FAA may conclude its NEPA review for the  
758 proposed project with a Finding of No Significant Impact (FONSI) or a FONSI and a  
759 Record of Decision (ROD; FONSI/ROD). For some EAs and all EISs the FAA  
760 concludes its NEPA review with a Record of Decision (ROD).
- 761 3.6 **Non-compliance and Corrective Action.**
- 762 3.6.1 A sponsor's failure to adhere to FAA requirements described in this AC, the airport  
763 sponsor's grant assurances, or the instruments of surplus and non-surplus property  
764 conveyances may cause the airport sponsor to violate its federal obligations. If the FAA  
765 finds an airport sponsor violated its federal obligations, the FAA may require corrective  
766 action to bring the sponsor back into compliance.
- 767 3.6.2 If the airport sponsor chooses not to initiate voluntary corrective action, which may  
768 include terminating or amending the oil and gas lease to ensure the sponsor holds  
769 sufficient rights, title and interest in the land to operate and maintain the airport in  
770 compliance with FAA requirements, the FAA may take formal procedural action under  
771 14 CFR Part 16. If the FAA finds the sponsor in formal noncompliance, the FAA may  
772 issue an order terminating eligibility for grants pursuant to 49 U.S.C. §§ 47106(d) and  
773 47111(d), and order a suspension of the payment of grant funds. Additionally, costs to  
774 restore or replace facilities damaged or to restore adequate title to airport land are not  
775 eligible for funding under the Airport Improvement Program. Corrective actions would  
776 be funded by oil and gas revenues secured and other non-airport funds. Site  
777 remediation may not be supported with AIP funds or airport revenue.  
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780           **APPENDIX A. AIRPORT SPONSOR RE-CERTIFICATION OF GOOD TITLE /**  
781           **RECOMMENDED AIRPORT OIL AND GAS LEASE PROVISIONS**

782    **A.1     General.**

783    A.1.1    The airport sponsor should secure qualified and experienced legal counsel for their  
784           solicitation and or negotiation for an oil and gas lease. In addition the sponsor must  
785           ensure that they retain adequate right, title and interest in the land required for  
786           continued public airport use and compliance to all grant assurances. The sponsor may  
787           be requested to have their attorney re-certify “good title” for continued public use  
788           airport purposes.

789    A.1.2    Any extraction and development rights of a lessee under an oil and gas lease of airport  
790           owned minerals shall be adequately subordinated to the public airport use of the property  
791           and must be compatible and in compliance with all applicable FAA requirements  
792           concerning use and development of obligated airport land.

793    A.1.3    Therefore an acceptable oil and gas lease that involves surface use of airport land must  
794           contain adequate restrictions on the surface use of the land and ensure that any use of  
795           airport surface land is subject to applicable FAA requirements for the exploration,  
796           construction of well sites and related infrastructure, drilling, production of oil and gas,  
797           closure and remediation of allowable well sites.

798    A.1.4    Non-surface occupancy leases must be explicit that the lessor has no right of access or  
799           use to airport surface land for development of wells sites or production. Any temporary  
800           access and occupancy of surface land for exploration must be restricted and controlled  
801           to not interfere with safe airport operations or result in significant changes or damages  
802           to surface land or facilities.

803    A.1.5    All rental and royalty payments under an acceptable oil and gas lease must be shown to  
804           be at fair market value (FMV) rates. Land rents for well sites and infrastructure should  
805           reflect at least market ground rents for non-aeronautical development of airport land.

806    **A.2     Description of Common “Paid-up” Oil and Gas Lease.**

807    A.2.1    The “paid-up” Oil and Gas Lease, which is the most common conveyance document  
808           offered to airport sponsors, provides the lessee (oil and gas company) the right to  
809           explore and develop well sites for the extraction of oil and gas. Initial payment is made  
810           in advance of production (signing bonus). Drilling and production must commence  
811           within the “Primary Term” of the lease or the lease terminates.

812

813 A.2.2 **Primary Term:** The number of years stated in the lease during which drilling operations  
814 must begin. The time frame is determined by the local market. To say a lease is at  
815 market, the primary period must be set at the typical time frame of competing gas and  
816 oil leases. Typically the primary term is between 2 and 5 years, depending on the local  
817 market.

818 A.2.3 **Secondary Term:** If production has been established in the primary term, the lease will  
819 continue into the Secondary Term and last as long as substances covered by the lease  
820 continue to be produced.

821 A.2.4 **Lease Payment Provisions:** All leases must provide at least fair market rent, royalty and  
822 rental payment provisions to the airport owner. Land rents for well site, access roads,  
823 utilities and pipelines must reflect at least market rate ground rent.

824 A.2.4.1 **Royalty.**

825 The lease will state the airport's royalty or share of production revenue.  
826 Royalties must be at, or exceed, market rates and comparable to leases in the  
827 market area of equal extraction and development potential, e.g. quantity and  
828 quality of oil/gas known resource, site and acreage, access and proximity for  
829 market delivery (transmission pipeline, oil depot), other competitive  
830 characteristics of the airport land. All production costs and expenses are  
831 paid by the lessee (developer). The royalty is the % share of the market  
832 price of the gas sold at the pipeline. Typically in active markets royalty  
833 rates on airport leases have been between 18% and 30%.

834 A.2.4.2 **Shut In Royalty.**

835 Payment due when well is not producing due to low prices.

836 A.2.4.3 **Surface Rentals and Damages.**

837 FMV ground lease rents for the well site, pipelines, roads, ponds, etc. FMV  
838 rent must reflect the highest and best use of the land.

839 A.3 **Sponsor Re-Certification of Good Title.**

840 A.3.1 The sponsor will ensure its proposed oil and gas lease incorporates sufficient  
841 restrictions for the sponsor to maintain compliance with its federal aid obligations and  
842 assurances (see Sections 2.5 and 2.6).

843 A.3.2 The airport sponsor may be requested to provide their attorney's re-certification of good  
844 title to FAA. The attorney recertification must be explicit that the lease restrictions are  
845 enforceable under state law and that the airport maintains good title for public airport  
846 purposes (grant assurance 4). The certification should identify the specific lease  
847 provisions and describe the sponsor's ability to ensure adequate protections, including  
848 but not limited to the following:

- 849           A.3.2.1    **Limited/ No Access.**  
850                    The lease must describe those areas of the airport that the developer/lessee  
851                    has no surface access to, e.g. the AOA, and other areas where there is risk of  
852                    conflict with safe airport uses and operations. (grant assurance 5, 19 and 20)
- 853           A.3.2.2    **Subordination of Mineral Estate.**  
854                    Acknowledge the airport use of the property and that the developer/lessee  
855                    use of the surface is subordinate to the airport use of the property. The lease  
856                    includes a clause requiring all oil and gas activities and operations be  
857                    considered subordinate to the airport sponsor’s federal obligations. (grant  
858                    assurance 5, 19 and 20)
- 859           A.3.2.3    **Compliance with Laws.**  
860                    The lessee must construct all facilities and conduct all operations in strict  
861                    compliance with all applicable federal (including FAA), state, and local  
862                    laws, codes, rules, regulations, ordinances, permits, as well as the airport’s  
863                    design criteria and the airport’s rules and regulations regarding oil and gas  
864                    operations. This includes the instrument(s) entered into between the sponsor  
865                    and the United States creating and/or perpetuating the sponsor’s federal  
866                    obligations. (grant assurance 5, 19 and 20)
- 867           A.3.2.4    **Compliance with Airport Revenue Requirements.**  
868                    All use of airport property for nonaeronautical purposes must be at or  
869                    exceed FMV and in accordance with the FAA’s Revenue Use Policy.
- 870           A.3.2.5    **Permitting.**  
871                    All construction and use of airport property is subject to approval by the  
872                    airport owner and must comply with airport rules and regulations  
873                    (incorporated by reference). FAA Form 7460, CFR Title 14 section 77.9 and  
874                    CSPP determinations are required prior to commencing any construction  
875                    (grant assurance 20).
- 876           A.3.2.6    **Airport Rules and Regulations.**  
877                    A clause that incorporates by reference the airport’s rules and regulations  
878                    governing on-airport construction that apply to oil and gas operations. (grant  
879                    assurance 5, 19 and 20)
- 880           A.3.2.7    **Insurance.**  
881                    The developer/lessee must maintain adequate insurance for general liability  
882                    and environmental remediation for the proposed development production  
883                    and ultimate closing of wells (grant assurance 20 and 21).
- 884           A.3.2.8    **Bond/Irrevocable Letter of Credit.**  
885                    The lessee should maintain adequate bonding to cover its liabilities and  
886                    obligations incurred under this lease.

- 887           A.3.2.9    **Indemnity and Hold Harmless Clause.**  
888                    The lease must have an adequate indemnification and hold harmless  
889                    provision to protect the airport from any liability associated with the lease  
890                    and any operations or actions by lessee, assigns, agents, contractors, etc.
- 891           A.3.2.10 **No Warranty of Title.**  
892                    The airport sponsor should provide no **warranty or** assurance of title for the  
893                    lessee. The lessee (gas/oil developer) will have to insure adequate title for its  
894                    gas/oil production.
- 895           A.3.2.11 **Assignment and Subletting.**  
896                    The lessee must not assign the lease or sublet the land (leased premises)  
897                    without the prior written approval of the airport.
- 898           A.3.2.12 **Construction and Surface Restoration.**  
899                    Lessee agrees to restore property to condition acceptable to the airport upon  
900                    termination of lease or abandonment of site or facility.
- 901           A.3.2.13 **Environmental Representations, Warranties.**  
902                    These provisions concern representations and warranties each party to the  
903                    lease makes concerning the environmental condition of the leased property  
904                    prior to, during, and after oil and gas drilling operations. These provisions  
905                    also apportion liability between the parties to the lease in the event of  
906                    environmental contamination resulting from oil and gas drilling operations.
- 907    A.4       **Sample Lease Provisions.**  
908                    Table A-1 below lists recommended sample provisions for drafting an oil and gas lease  
909                    for compliant on-airport development.

910           **Table A-1 Recommended Lease Terms for On-Airport Oil and Gas Lease**

Term/Condition	Description/Sample Language
<b>A. Subordination of Mineral Estate; Limited Access (Required).</b>	1. Lessee acknowledges that Lessor operates a public use airport on the Land, and that Lessor has or may have plans to construct new structures and improvements on the Land, or to expand the structures and improvements currently existing on the Land. As such, Lessee’s leasehold interest as described herein, including, without limitation, its use of and access to the Land for the purpose of exploring, drilling, and producing oil and gas, laying pipelines, and buildings roads, tanks, and other facilities thereon to produce, store, treat, and process oil and gas, are hereby expressly

Term/Condition	Description/Sample Language
<i>Continue Subordination of Mineral Estate; Limited Access.</i>	<p>subordinated in all respects to the use of the Land as a public use airport, and subordinate to the sponsor's federal obligations.</p> <p>2. Drill site operations and all related operations shall be limited to designated portions of the Land that are currently undeveloped and not planned to be developed as detailed in the airport's most recent master plan. Such locations are identified on Exhibit __ to this Lease. Lessee agrees to conduct its operations so as not to interfere with Lessor's use of the Land as is consistent with the operations of a public use airport. Lessee shall not make, allow, or permit any operations that involve a use of the Land's surface that would or might interfere with any actual or contemplated use of the surface of the Land by Lessor, without the prior written consent of Lessor.</p> <p>3. Lessee's right of ingress and egress to and across the Land shall not be permitted without the prior written consent of Lessor. Such consent shall not be unreasonably withheld, as long as such ingress and egress does not interfere with the use of the Land a public use airport and the sponsor's federal obligations. Moreover, all access to the Land shall occur so as not to violate security procedures in place at the time the access is sought and so as not to contravene any FAA regulations, rules or orders.</p> <p>4. Lessee shall construct all facilities, including roads, in strict compliance with all applicable federal, state, and local laws, codes, rules, regulations, ordinances, permits, and [the Airport's design criteria and rules].</p> <p>5. Lessee shall take no action that could compromise the safe and efficient use of the Land as a public use airport with concurrent commercial development. No signage, other than that required by law and posted so as not to conflict with or distract from required airport signage, shall be allowed without the prior written approval of Lessor.</p> <p>6. Lessee agrees that in the event the location of any well drilled on the Land pursuant to this Lease interferes with Lessor's future use or development of the Land, then Lessee shall, upon Lessor's request, plug and</p>

Term/Condition	Description/Sample Language
	abandon such well and associated facilities, within one hundred twenty (120) days of such request. (Establish amortization of cost terms and purchase and valuation methods).
<b>B. Compliance with laws (Required).</b>	Lessee shall conduct all operations hereunder in strict compliance with the laws, codes, rules, regulations, ordinances, and permits, as applicable, of [the applicable state regulatory agencies] and the FAA, and in accordance with all other federal, state, and local laws, codes, rules, regulations, ordinances, permits, and [the Airport's design criteria and rules] and the sponsor's federal obligations.
<b>C. Compliance with Airport Revenue Requirements (Required).</b>	The terms of the lease must comply with the airport sponsor's federal obligations. This also includes abiding by FAA's Policy and Procedures Concerning the Use of Airport Revenue (Revenue Use Policy, 64 FR7696). This policy sets forth the permitted and prohibited uses of airport revenue, set forth in statute, in accordance with grant assurance 25.
<b>D. Permitting (Required).</b>	All construction and use of airport property under this Lease shall be subject to the prior approval by Lessor, and must comply with the Airport rules and regulations, which are incorporated herein by reference. Further, all construction and use of airport property as contemplated by this Lease shall comply with all FAA rules, regulations and orders, including, without limitation, FAA's AC 150/5370-2, Operational Safety on Airports during construction. Any activities done on airport property must meet FAA requirements for notification and approvals including but not limited to Notice of Proposed Construction or Alteration (FAA Form 7460-1) prior to commencing any construction. Finally, all construction and use of airport property as contemplated by this Lease shall be consistent with all the findings and mitigation measures, if any, set forth in the environmental documentation prepared in compliance with the National Environmental Protection Act.
<b>E. Airport Rules and Regulations.</b>	The [Airport's rules and regulations], including, without limitation, all rules and regulations concerning oil and gas exploration, development, transportation, or any other related operations or activities, are hereby incorporated

Term/Condition	Description/Sample Language
<b>F. Insurance</b>	<p>into this Lease by reference and made a part hereof.</p> <p>Lessee shall acquire and, at all times while this Lease is in effect, maintain insurance covering all of its operations on the Land, including, without limitation, all work performed by it or on its behalf by contractors, subcontractors, and others, naming Lessor and related individuals and entities designated by Lessor as additional insureds. The policies shall include coverage for comprehensive general liability for bodily injury and property damage, environmental pollution liability, control of well or blowout coverage for the cost of cleanup and surface remediation, workers' compensation, and any other coverages and insurance reasonably required by Lessor. Any insurance policy obtained and maintained as required in this Lease shall not be subject to limitations, conditions, or restrictions deemed inconsistent with the intent of the insurance requirements to be fulfilled by Lessee. The bankruptcy, insolvency, or denial of liability by any insurance company providing coverage hereunder shall not exonerate or in any way relieve Lessee from liability.</p>
<b>G. Bond, Irrevocable Letter of Credit</b>	<p>Prior to the commencement of any construction or drilling operations under this Lease, Lessee shall provide to Lessor a security instrument in the form of a bond or letter of credit in the form and amount reasonably acceptable to the Lessor; provided, however, that such security instrument shall, at a minimum, adequately cover Lessee's obligations and liabilities for the construction, drilling or other activity under this Lease for which the security instrument was obtained. Any such security instrument shall remain in full force and effect throughout the period of performance, and for a reasonable period thereafter, of the construction, drilling or other activity under this Lease for which the security instrument was obtained.</p>
<b>H. Indemnity and hold harmless clause.</b>	<p>Lessee agrees to indemnify, defend and hold harmless Lessor, and Lessor's representatives, board members, council members, agents, employees, contractors, and any other person or entity acting by, through or under Lessor's direction or control, Lessor's independent contractors, and Lessor's successors and assigns, against all expenses, claims, demands, liabilities, and causes of</p>

<b>Term/Condition</b>	<b>Description/Sample Language</b>
	<p>action of any nature for injury to or death of persons and loss or damage to property, including, without limitation, attorneys' fees, experts' fees, and court costs, caused by Lessee's operations on the [Land] or Lessee's marketing of production from the [Land] or any violation of any environmental requirements by Lessee. As used in this paragraph, the term "Lessee" shall include Lessee, its agents, employers, contractors, and any other person acting under its direction or control, and its independent contractors. This indemnity shall be as great as the law allows, and Lessee shall indemnify and hold harmless for all loss, cost, damage, or expense of every kind and nature, whether the result of the sole negligence, concurrent or comparative negligence, or strict liability of Lessee. To the extent, and only to the extent, the foregoing indemnities are, by law, only enforceable if supported by available liability insurance, Lessee agrees that the insurance provided for in this Lease is intended to satisfy any coverages and dollar limits of liability provided by applicable statutes. To the extent, and only to the extent, the foregoing indemnities are, by law, either inapplicable or not enforceable, Lessee and Lessor shall each be responsible for the results of its own actions and for the action of those persons and entities over which it exercises direction and control. Lessee's indemnities set forth herein shall survive the termination or expiration of this Lease.</p>
<p><b>I. No Warranty of Title</b></p>	<p>Lessor makes no warranty or assurance of any kind with respect to title to the Land. By acceptance of this Lease, Lessee acknowledges that it has been given full opportunity to investigate and has conducted sufficient investigation to satisfy itself as to the title to the Land, and Lessee assumes all risk of title failures.</p>

Term/Condition	Description/Sample Language
<b>J. Assignment and subletting</b>	<p>Lessee shall not assign this Lease or sublet the [Land] without the prior written consent of Lessor. In the event Lessor consents in writing to any assignment or sublease, the assignee or sublessee shall assume all of Lessee's liabilities, obligations, and duties under this Lease. Further, Lessee shall remain liable for its obligations regardless of any assignment or sublease and any assignee or sublessee shall be jointly and severally liable with Lessee, unless Lessor expressly releases the original Lessee in writing from such liabilities, obligations, and duties.</p>
<b>K. Construction and Surface Restoration.</b>	<p>All construction and surface restoration work performed by Lessee shall be undertaken so as to restore the Land to as near its original condition as is reasonably practicable and in strict compliance with all applicable laws, codes, regulations, ordinances, permits and the [Airport's design criteria and rules] and the airport sponsor's federal obligations. Throughout the term of this Lease, including, without limitation, during all drilling activities, Lessee shall keep the Land in as clean a condition as practicable and free from foreign object debris (FOD) and other hazards that may impair the safety of airport operations.</p>
<b>L. Environmental Matters, Environmental Representations and Warranties. (AS APPLICABLE TO ON-AIRPORT CONSTRUCTION AND OPERATION)</b>	<p>(1) The lessee/developer represents, warrants, and covenants the following:</p> <p>(a). Lessee has obtained and throughout the term of this Lease shall obtain and maintain all licenses, permits, exemptions, registrations, and other authorizations required under Environmental Laws (as defined below) and shall provide any notices required under Environmental Laws for conducting its operations on the Land. Lessee shall require its sublessees, if any, and contractors to obtain and maintain all licenses, permits, exemptions, registrations and other authorizations required under Environmental Laws for conducting operations on the Land.</p> <p>(b). Lessee shall comply and shall cause all of its employees to comply, and shall exercise best efforts to cause its agents, contractors, sublessees or other parties under Lessee's direction and control to comply, and shall include in all subleases a provision requiring the</p>

Term/Condition	Description/Sample Language
	<p data-bbox="706 273 1429 451">sublessee to comply and all employees, contractors, sublessees or other parties under sublessee's control to comply with all Environmental Laws pertaining to Lessee's (and including third parties under Lessee's direction and control) use of and operations on the Land.</p> <p data-bbox="706 472 1429 724">(c). Lessee shall not cause, contribute to, or permit any Release (as defined below) of any Hazardous Substances (as defined below) or Solid Waste (as defined below) by Lessee or its employees, agents, contractors, sublessees or other parties under sublessee's direction and control, on, at, or from the Land, except in compliance with Environmental Laws.</p> <p data-bbox="706 745 1429 1323">(d). Lessee, prior to vacating or surrendering any portion of the Land or as sooner required by Environmental Laws or this Lease, shall remove and dispose of and shall require its employees to exercise its best efforts to require its agents, contractors, sublessees, or any other party under Lessee's direction and control at the Land to remove and dispose of, any materials, debris, tanks, equipment, ponds, vessels, and containers placed by Lessee or its agents, contractors, sublessees, or any other party under Lessee's direction and control at the Land that are composed of or contain Solid Waste or Hazardous Substances (as distinct from actual Releases which have resulted in contamination of the environment and are subject to the provisions herein pertaining to response and compliance actions), at no cost to Lessor and in compliance with Environmental Laws.</p> <p data-bbox="706 1344 1429 1701">(e). Lessee shall conduct and shall require its employees to conduct, and shall exercise best efforts to cause its agents, contractors, sublessees or other third parties under Lessee's direction and control to conduct its/their activities and operations in a manner consistent with Lessor's duties and obligations under Environmental Laws, including, without limitation, environmental permits issued to Lessor and Lessor's commitments under the State Implementation Plan and the National Environmental Policy Act.</p> <p data-bbox="706 1722 1429 1900">(f). Lessee acknowledges that Lessor is or may be subject to the [State Discharge Elimination System Program], the National Pollution Discharge Elimination Program (NPDES), and state and federal regulations relating to stormwater discharges, including, without</p>

Term/Condition	Description/Sample Language
	<p>limitation, 40 CFR Part 122, for operations that occur at the Airport. Lessee further acknowledges that it will conduct operations and activities (and shall require its employees to conduct operations and activities, and shall exercise its best efforts to cause its agents, contractors, sublessees or other third parties under Lessee's direction and control to conduct operations and activities) on or related to the Land in compliance with applicable regulations, including 40 CFR Part 122, and any applicable [State Discharge Elimination System Program] and NPDES permits, as these may be amended from time to time. Lessee acknowledges that its cooperation is necessary to ensure compliance with any [State Discharge Elimination System Program] and NPDES permits. Lessee acknowledges that it may be necessary to use best efforts to minimize the exposure of stormwater to materials generated, stored, handled, or otherwise used by Lessee (including third parties under its direction and control), by implementing and maintaining effective "Best Management Practices" as defined in 40 CFR section 122.2, depending upon the applicability to Lessee's operations or any activities conducted by Lessee at the Land and as required by any applicable [State Discharge Elimination System Program] or NPDES permit, as these may be amended from time to time. Lessee further acknowledges that any existing [State Discharge Elimination System Program] or NPDES permit issued to Lessor, and any subsequent permit(s), amendments, extensions or renewals thereto, is incorporated by reference in this Lease to the extent affecting Lessee's operations at or related to its use of the Land. Lessor agrees to notify Lessee of any changes to any portions of such permits applicable to, or that affects Lessee's operations at or use of, the Land.</p>
	<p>(g). Lessee shall not create or maintain any wildlife attractants without appropriate coverings or other effective mitigation measures. Further, Lessee shall locate all water storage facilities (pits or ponds) in accordance with applicable FAA airport design standards to ensure compatibility with airport operations.</p>
	<p>(h). <u>Right of Entry and Inspection.</u></p>
	<p>(i) Lessor shall have the full right at all reasonable times, and in Lessor's sole</p>

Term/Condition	Description/Sample Language
	<p>discretion, to enter the sites where Lessee's operation are located for the purpose of conducting an inspection, assessment, investigation, and regulatory compliance audit. Lessor or its authorized agents may perform testing of the Land as needed, including test borings of the ground and chemical analyses of air, soil, water, and waste discharges. Lessor will provide advance written notice of such entry and inspections, except in case of emergencies, when notice shall not be required.</p> <p>(ii) Lessee shall cooperate (and shall require its employees and shall exercise its best efforts to require its agents, contractors, sublessees, or any other third party under Lessee's direction and control to cooperate) in allowing prompt reasonable access to Lessor to conduct such inspection, assessment, audit, or testing. Lessee remains solely responsible for its environmental compliance, notwithstanding any inspection, assessment, audit, or testing.</p> <p>(i). <u>Information to be Provided.</u></p> <p>i. If Lessee receives any notice, correspondence, citation, order, warning, complaint, inquiry, claim or demand that is not legally privileged, made confidential by applicable law, or protected as trade secrets (a) concerning any alleged Release of Hazardous Substances or Solid Waste at, on, or from the Land, or into the environment from the Land, or (b) alleging that Lessee or any employee, agent, contractor, sublessee, or any other party under either of the party's direction and control has violated or is about to violate any Environmental Law(s) pertaining to Lessee or third party operations at or use of the Land, or (c) asserting that Lessee or any party under Lessee's direction and control is liable for the cost of remediation or investigation of a Release of Hazardous Substances or Solid Waste on, at, or from the</p>

Term/Condition	Description/Sample Language
	Land, Lessee shall immediately provide written notice to Lessor of the same, including a copy of any related documents.
	ii. Lessee shall provide to Lessor simultaneously with any submittal to any governmental agency, a complete copy (including exhibits and attachments) of any reports or notices required by Environmental Laws, and which are not legally privileged, made confidential by applicable law, or protected as trade secrets, regarding (a) alleged to comply with any Environmental Laws or (b) the Release of any Hazardous Substance or Solid Waste in, on, or into the environment, arising out of the past or present operations at or use of the Land by Lessee or any party under Lessee's direction and control.
	iii. Each party shall provide the other with reasonable advance notice of any scheduled meeting with any governmental agency regarding, in whole or in part, compliance or alleged non-compliance with Environmental Laws or use of or operations at the Land.
	iv. Lessor reserves the right to notify or consult any appropriate governmental authority or agency regarding conditions on the Land or concerns relating to Lessee's operations at or use of the Land, including operations of Lessee's employees, agents, contractors, sublessees, or any other third party under Lessee's control, if Lessor believes those conditions or operations do or may violate applicable Environmental Laws, may pollute or contaminate the environment, or may adversely affect the health, welfare, or safety of persons.
	(j). <u>Response and Compliance Actions.</u>
	i. If the Land or other property is or becomes contaminated or otherwise damaged or injured as a result of a Release of Solid Waste or Hazardous Substances on, at, or from the Land by Lessee or by its employees, agents, contractors, sublessees, or any other party

Term/Condition	Description/Sample Language
	<p>under Lessee's direction and control, Lessee shall (a) orally notify Lessor immediately of such contamination or damage upon Lessee's discovery of such contamination or damage, (b) promptly take reasonable actions to control any such Release or contamination, (c) immediately take all reasonable actions necessary or required under Environmental Laws to mitigate any immediate threat to human health or the environment. Lessee shall then undertake any further repairs or corrective actions, in a timely manner and in full compliance with Environmental Laws, as are necessary to remove or remediate contamination to, at a minimum, return the Land to its prior condition.</p> <p>ii. If Lessee does not take immediate action or other timely action as necessary to mitigate or prevent any imminent actual or potential threat to human health or the environment caused by Lessee or its agents, contractors, sublessees, or any other party under Lessee's direction or control, then Lessor, in addition to its rights and remedies described elsewhere in this Lease, at its election, may enter the Land and take whatever reasonable action to eliminate the threat or return of the Land to at least its prior condition, as applicable. All Costs (as defined below) associated with any action by Lessor in connection with this section shall be subject to the reimbursement and indemnification requirements of this Article.</p> <p>(k). <u>Corrective Action Process</u>. Before commencing any remedial or corrective action under this Article, and except for immediate preventative action required hereunder, Lessee shall obtain prior written approval of the Lessor. The work shall be performed at Lessee's expense, and Lessor shall have the right to review and inspect all such work at any time using consultants and representatives of Lessor's choice. Lessee shall remove or remediate the Land to, at a minimum, its prior condition. Lessee shall, at Lessee's sole cost and expense, make all tests, reports, and studies and shall</p>

Term/Condition	Description/Sample Language
	<p>provide all information to any appropriate governmental agency as may be required pursuant to the Environmental Laws pertaining to Lessee's response actions. This obligation includes but is not limited to any requirements for a site characterization, site assessment and remediation plan that may be necessary.</p> <p>In the event Lessor undertakes any action or incurs any costs in the exercise of its rights hereunder, Lessee shall promptly reimburse Lessor in the manner determined by Lessor in its reasonable discretion at the time such reimbursement is sought, for all reasonable and documented costs associated with such response, repairs, corrective action or remediation, including, but not limited to, consultants' fees, contractors' fees, attorneys' fees, penalties, costs of investigation or other costs incurred hereunder by it or its agents.</p> <p>(1). <u>Environmental Indemnification</u>. Notwithstanding any other provision in this Lease to the contrary, Lessee agrees to indemnify, defend and hold harmless Lessor from and against any and all claims, demands, penalties, fines, suits, actions, administrative proceedings, settlements reached, government orders, judgments, losses, damages, liabilities, costs, and expenses (including, but not limited to, reasonable attorneys' and consultants' fees, litigation costs, expert witness fees, and expenses of investigation, removal, remediation, or other required plan or response action) to the extent resulting from (a) the breach of an representation or warranty set forth herein by Lessee or any employees, agents, contractors, sublessees, or any other party under Lessee's direction and control, (b) the failure of Lessee to meet its obligations hereunder, (c) the violation of any Environmental Law by Lessee or its agents, contractors, sublessees, or any other party under Lessee's direction and control, and (d) documented loss by Lessor to a third party or governmental entity from any Environmental Impact Claim (as defined below), to the extent resulting from the operations, activities, actions or inaction of Lessee or its employees, agents, contractors, sublessees, or any other party under Lessee's direction and control at or related to the Land.</p> <p>In the event that Lessee fails or refuses to defend Lessor as provided herein, Lessor shall have full right to</p>

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Term/Condition	Description/Sample Language
	<p>undertake its own defense and to settle any such claims or lawsuits. In such event, Lessee shall be liable to Lessor, and shall promptly pay any resulting judgment against, or settlement by Lessor, and shall reimburse Lessor for all reasonable attorneys' fees and costs in undertaking such defense or settlements.</p>
	<p>(m). <u>Reimbursement</u>. In the event Lessor undertakes any action, including, but not limited to, response or corrective action, repairs, or remediation, in the exercise of its rights hereunder, Lessee shall reimburse Lessor, upon written notice, for all costs Lessor incurs in association with such action.</p>
	<p>(n). <u>Survival of Environmental Provisions</u>. Unless specifically stated elsewhere herein, the provisions of this Lease concerning environmental matters, including the representations, warranties, covenants and indemnities of Lessor and Lessee, are intended to and shall survive the termination of this Lease.</p>
	<p>(o). <u>Defined Terms</u>. The following defined terms used herein shall have the following meanings:</p>
	<p>i. <u>Costs</u> means all costs and expenses, including, but not limited to, attorneys' and consultants' fees, litigation costs, expert witness fees, and expenses of investigation, removal, remediation, or other required environmental plan or response or remedial action.</p>
	<p>ii. <u>Environmental Impact Claim</u> means any claim, suit, judgment, penalty, fine, loss, administrative proceeding, request for information, citation, notice, cost, or expense (including, but not limited to, any costs of investigation, study, cleanup, removal, response, mitigation, remediation, transportation, disposal, restoration, monitoring, consultants' fees, contractors' fees, and attorneys' fees) which arises out of, is related to, alleges, or is based on the presence, handling, treatment, storage, or actual or threatened Release, dispersal, disposal, escape, or migration of any Hazardous Substance or Solid Waste at or from the Land, or any effect on wildlife.</p>

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Term/Condition	Description/Sample Language
	<p>iii. <u>Environmental Laws</u> means all federal, state and local laws, court or administrative decisions, statutes, rules, regulations, ordinances, FAA ACs and orders, court orders and decrees, administrative orders and any administrative policies, guidelines or guidance documents now or hereafter in effect relating to the environment, wildlife, public health, occupational safety, industrial hygiene, and Hazardous Substance or Solid Waste (including, without limitation, the disposal, generation, manufacture, presence, processing, production, release, storage, treatment or use thereof at the Land), or the environmental conditions on, under or about the Land, as amended and as in effect from time to time.</p> <p>iv. <u>Hazardous Substances</u> means (i) all chemicals, materials and substances defined as or included in the definition of “hazardous substances,” “hazardous wastes,” “hazardous materials,” “extremely hazardous wastes,” “restricted hazardous wastes,” “toxic substances,” “toxic pollutants,” “contaminants,” “pollutants,” “regulated substances,” or words of similar import, under any applicable Environmental Law and (ii) all other chemicals, materials and substances that are prohibited, limited or regulated by any governmental authority, including, without limitation, asbestos, radioactive materials (including naturally occurring radioactive materials), petroleum, petroleum products, and substances and compounds containing polychlorinated biphenyls.</p> <p>v. <u>Release</u> means any depositing, spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment, or threat of release such that a release may enter the environment.</p> <p>vi. <u>Solid Waste</u> shall have the same meaning as in the Resource Conservation and Recovery Act.</p>



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**APPENDIX B. REFERENCES**

913 There are a multitude of studies, commentary, and articles on oil and gas production and  
914 particularly on hydraulic fracturing. The following sources have been consulted in the  
915 preparation of this AC and may be useful sources of further information in the analysis and  
916 documentation of environmental considerations.

- 917 • Department of Energy, Office of Fossil Energy, National Energy Technology  
918 Laboratory, Modern Shale Gas Development in the United States: A Primer, April  
919 2009.
- 920 • Department of Energy, Secretary of Energy Advisory Board, Shale Gas Production  
921 Subcommittee 90-Day Report, August 18, 2011; Second Ninety Day Report,  
922 November 18, 2011.  
923 [http://www.shalegas.energy.gov/resources/111811\\_final\\_report.pdf](http://www.shalegas.energy.gov/resources/111811_final_report.pdf)
- 924 • Department of the Interior, Bureau of Land Management, The Gold Book, Surface  
925 Operating Standards for Oil and Gas Exploration and Development, Fourth Ed.,  
926 revised 2007.  
927 [http://www.blm.gov/wo/st/en/prog/energy/oil\\_and\\_gas/best\\_management\\_practices/  
928 gold\\_book.html](http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/gold_book.html)
- 929 • Environmental Protection Agency, Hydraulic Fracturing Website,  
930 <http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/index.cfm>.
- 931 • Federal Aviation Administration Memorandum, August 24, 2012, *Interim Guidance*  
932 *on Mineral Extraction and Request for Data Update*.  
933 [http://www.faa.gov/airports/environmental/media/interimMineralExtractionGuidanc  
934 e.pdf](http://www.faa.gov/airports/environmental/media/interimMineralExtractionGuidance.pdf)
- 935 • The National Petroleum Council, An Oil and Gas Advisory Committee to the  
936 Secretary of Energy, Website, [www.npc.org](http://www.npc.org)
- 937 • U.S. Energy Information Administration, Website, [www.eia.gov](http://www.eia.gov)
- 938 • FracFocus, Chemical Disclosure Registry, Website, [www.fracfocus.org](http://www.fracfocus.org)