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## LCP Update Guide

### Section 10. Energy and Industrial Development

Many of the new trends in energy and industrial development concern new or expanded development of: oil and gas facilities, desalination, repowering of coastal power plants, telecommunications cables, and other new industrial technologies. While offshore development is regulated by the state, LCPs play a critical role in addressing onshore projects and onshore components of offshore projects, and should be updated to address these trends. However, regulating new facilities is only one aspect to consider. It is also important to address the abandonment or reuse of older facilities and assuring site restoration. At the same time, other industries, such as aquaculture, are also undergoing change.

There is also increased emphasis on developing alternative renewable energy (e.g. solar, wind, wave and tidal technologies) as a climate change adaptation strategy. As a result, it is important that LCPs contain updated land use designations, policies and ordinances capable of addressing changing demand for energy and coastal dependent industry and responding to emerging technologies and their potential impacts.

#### *What should an updated Energy and Industrial Development component include?*

An updated map and description of existing energy facilities and coastal dependent industries within the coastal zone, as well as land zoned for such uses,

A clear explanation of which agency regulates energy and industrial development. This should include the Commission's regulatory authority over tidelands and submerged lands and offshore development (refer to Coastal Act section 30519(b)), requirements regarding power plants (refer to Coastal Act sections 30413 and 30264), and requirements for coastal development permits,

An update of the allowable or conditional uses permitted in industrial (or other applicable) zones as well as designation of compatible land use categories adjacent to energy and industrial facilities and hazardous industries,

An update of land uses and zoning ordinances to specify where alternative energy facilities are permitted alone or in conjunction with other development, conditions to assure such facilities conform with and carry out Coastal Act policies, and conditions under which permits for such facilities may be streamlined,

***Review the principal Coastal Act policies concerning energy and industrial facilities at***

*Sections 30255, 30260 through 30264, 30232, and 30250. These statutes can be found at:*

<http://www.coastal.ca.gov/coa/act.pdf>

Updated information on industrial and energy facility expansion plans and proposals,

Revised policies regarding the expansion and location of coastal dependent industrial facilities, multi-company use of existing facilities, the location of hazardous industrial development, and the expansion and location of non-coastal dependent industrial development, and

Revised policies and ordinances to address the abandonment of facilities to assure the materials and development are removed, and the site restored.

*Where can I read some examples of current LCP energy components?*

A couple of local jurisdictions that handle many coastal energy projects have examples of LCP policy and ordinances:

- ❑ **The County of Santa Barbara: Coastal Land Use Plan, Chapter 3.6 Energy and Industrial Development**, at: <http://longrange.sbcountyplanning.org/programs/genplanreformat/PDFdocs/CoastalPlan.pdf>
- ❑ **Santa Barbara County Article II: Coastal Zoning Ordinance, Division 9 Oil and Gas Facilities**, at: <http://www.sbcountyplanning.org/pdf/A/Article%20II%20Coastal%20Zoning%20Ordinance%2007-2013%20update.pdf>
- ❑ **The Ventura County General Plan Coastal Area Plan**, at: [http://www.ventura.org/rma/planning/pdf/plans/coastal\\_area\\_plan\\_9-16-08.pdf](http://www.ventura.org/rma/planning/pdf/plans/coastal_area_plan_9-16-08.pdf)
- ❑ **The Ventura County Coastal Zoning Ordinance**, at: [http://www.ventura.org/rma/planning/pdf/ordinances/zoning/coastal\\_zone\\_ord.pdf](http://www.ventura.org/rma/planning/pdf/ordinances/zoning/coastal_zone_ord.pdf)

Some examples of policies and ordinances governing local permits for small scale solar and wind energy components or onshore components supporting aquaculture are noted later in this section.

*What are some key issues in energy and industrial development?*

The following subsections highlight some new information that should be considered in updating policies for onshore energy and coastal dependent industrial development and for alternative energy development.

◆ **Directional Oil and Gas Drilling**

Improvements in drilling technologies now make it easier to reach reservoirs through directional drilling from existing facilities, thus allowing access without development of new drilling sites. This can help to minimize site

disturbance yet can also raise new issues if such directional drilling extends the life of aging industrial sites. In addition, improvements in directional or “extended reach” drilling technology make possible extracting oil and gas from onshore sites in lieu of installing new offshore drilling platforms.

◆ Decommissioning/Abandonment of Facilities

If there are aging industrial and energy facilities more than 20 years old in a jurisdiction, the LCP may need to be updated to include policies to address the decommissioning, remediation and removal of such old facilities and infrastructure. LCP policies should address such things as timing of equipment removal, pipeline removal/abandonment, site contamination assessment, site restoration requirements, etc. Policies can require that such activities to assure removal and restoration be explicit as part of a development plan submittal. In some cases a special demolition and reclamation permit may be required to regulate abandonment and removal of development. The LUP policies should outline the standards to guide remediation and restoration. For examples of some such policies, refer to the sample LCP Energy Components policies of Santa Barbara and Ventura Counties linked above. For example of ordinances to regulate such activities see:

- **Santa Barbara County Article II: Coastal Zoning Ordinance**, Section 35-170, page 291, at:  
<http://www.sbcountyplanning.org/pdf/A/Article%20II%20Coastal%20Zoning%20Ordinance%2005-2013%20update.pdf>

◆ Onshore Components of Offshore Energy Development

LCP updates should consider overall industrial development policies to guide onshore components of any future offshore oil and gas or other energy development. Many of these energy facilities will be within the Commission’s continuing permit jurisdiction, but some may result in onshore infrastructure. In addition, other energy development may occur in the local jurisdiction. The LCP should therefore include updated policies and ordinances to address, for example:

- ◆ Spill prevention and response provisions for any industrial or energy development,
- ◆ Land Use designations to locate onshore facilities in a manner that take into account best scientific estimates of projected sea level rise, that minimize risks to life and property, and will not require shoreline protective devices;
- ◆ Siting and design that will assure that public access will not be impacted;
- ◆ Minimizing and mitigating impacts from transmission lines, pipelines and pipeline landings,

- ◆ Minimizing and mitigating impacts of truck transportation,
- ◆ Avoiding, minimizing and mitigating impacts to water quality,
- ◆ Avoiding, minimizing and mitigating impacts to fishing and recreational boating, and
- ◆ Assuring multi-company consolidation of facilities and provisions for open or managed access to facilities.

◆ Power Plants

Since 2001 the Coastal Commission has reviewed at least six proposals to renovate and rebuild older power plant facilities to expand the life of the facilities and to increase electrical generating capacity. The Coastal Act requires the Coastal Commission to designate areas allowing reasonable expansion of existing power plants and areas where power plants may not be located due to impacts on coastal resources. Many LCPs developed in the 1980s reflect that guidance and, in some cases, specifically identify areas for power plant expansion. More recently, at least two State policies and one court decision could eliminate or reduce the use by coastal power plants of once-through cooling systems. In 2006, the Ocean Protection Council adopted a policy to reduce the adverse effects of these systems. In 2007, a federal court issued a decision that could eventually eliminate or significantly reduce the use of many once-through cooling systems. In 2010, the State Water Resource Control Board adopted a policy to phase out or reduce the adverse effects of these systems over the next decade or so. Existing LCPs should be reviewed to assure that policies and land use designations adequately address possible expansion and/or decommissioning of facilities, and address the likelihood that power plant once-through cooling systems will be phased out over the next several years and replaced with alternative cooling systems.

For background on power plant siting, see also:

- **Resolution of the California Ocean Protection Council Regarding the Use of Once-Through Cooling Technologies in Coastal Waters**, at: <http://www.opc.ca.gov/2006/04/resolution-of-the-california-ocean-protection-council-regarding-the-use-of-once-through-cooling-technologies-in-coastal-waters/>
- State Water Resource Control Board. **Once-Through Cooling Policy**, at: [http://www.waterboards.ca.gov/water\\_issues/programs/ocean/cwa316/](http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/)
- California Energy Commission, **Issues and Environmental Impacts Associated With Once-Through Cooling At California's Coastal Power Plants**, at: <http://www.energy.ca.gov/2005publications/CEC-700-2005-013/CEC-700-2005-013.PDF>

- California Energy Commission, **Issues and Environmental Impacts Associated With Once-Through Cooling At California’s Coastal Power Plants, Appendices**, at:  
<http://www.energy.ca.gov/2005publications/CEC-700-2005-013/CEC-700-2005-013-AP-A.PDF>
- U.S. Court of Appeals for the Second Circuit, **Riverkeeper, Inc. et. al vs. U.S. Environmental Protection Agency**, January 25, 2007 decision, at:  
[http://www.catf.us/advocacy/legal/CWIS/RiverkeepervEPA%20P2%2004-6692-ag\\_opn.pdf](http://www.catf.us/advocacy/legal/CWIS/RiverkeepervEPA%20P2%2004-6692-ag_opn.pdf)

◆ Desalination

In the last decade, as technologies have developed, more jurisdictions are exploring development of desalination facilities. However, many older LCPs did not take into account this possible water source and did not incorporate the development standards needed to address the effects of increased availability of water supplies from this source.

Many Coastal Act policies must be considered in updating LUP industrial and public works designations, policies, and standards that may apply to development of future desalination projects. For example, you will need to address Coastal Act policies that require that marine resources and biological productivity be protected and the effect of entrainment be minimized. Policies to protect and provide public access must be addressed as well. In addition, Coastal Act policies related to potential cumulative impacts of growth resulting from the water supply created must be addressed. These include, for example, requirements to concentrate development (PRC 30250), minimize energy consumption and vehicle miles traveled (30253(d)) and size and design public works facilities to accommodate needs generated by the development and, if limited, to support certain priority uses (PRC 30254). This is especially important if the proposed water supply from desalination policy implementation will result in creating new supply capacity as opposed to replacing an existing water source.

The LCP should also include provisions that ensure that as part of project planning, information is gathered that documents the extent of local water conservation efforts and opportunities and whether a proposed desalination facility fits within the local water supply portfolio. LUP policies should require evaluation of alternatives that address desalination’s relatively high energy use compared with other water sources, including conservation measures, water recycling and reclamation, and ways to reduce and mitigate that energy demand as required by Coastal Act section 30253(d). As noted above, the LCP should also address the impacts of growth and intensity of development should such water supplies become available and must tie the amount of water provided through such facilities to approved growth levels in the water service area. The Coastal Commission report referenced below

discusses these and other issues that will affect how a proposed desalination facility may or may not conform to Coastal Act requirements.

Past Commission actions on coastal development permits offer some examples of some of the unique issues raised by desalination, and how the Commission has addressed Coastal Act policies. For example, the Commission has adopted measures that ensure the use of subsurface intakes where feasible, that ensure public access to coastal water resources, and that provide for adequate protection of water quality and other environmental resources. LCP updates should consider similar measures.

For more information about Desalination issues under the Coastal Act see:

- ❑ California Coastal Commission, **Seawater Desalination and the California Coastal Act**, March 2004, at:  
<http://www.coastal.ca.gov/energy/14a-3-2004-desalination.pdf>

For some Commission actions on LCP Amendments see:

- ❑ **City of Sand City LCP Major Amendment No. 1-03**, at:  
<http://www.coastal.ca.gov/sc/Th10b-3-2004.pdf>

For some examples of recent CCC permit actions see permits for development of Pilot Desalination Facilities in the Cities of Santa Cruz, Long Beach and Sand City:

- ❑ **Coastal Development Permit 3-06-034 (City of Santa Cruz)**, at:  
<http://documents.coastal.ca.gov/reports/2006/10/W11a-10-2006.pdf>
- ❑ **Coastal Permit Appeal A-5-LOB-03-239 (City of Long Beach)**, at:  
<http://www.coastal.ca.gov/energy/Th10a-10b-8-2003.pdf>
- ❑ **Coastal Permit Appeal A-3-05-10 (City of Sand City)**, at:  
<http://www.coastal.ca.gov/sc/5-2005-W8a.pdf>

#### ◆ Aquaculture

Strong consumer demand for seafood and the recent passage of state and national policies for the development of sustainable marine aquaculture is likely to promote the growth of this industry in coming years. While it is anticipated that most aquaculture facilities in coastal areas will continue to be located offshore within the Coastal Commission's retained permit jurisdiction, the potential also exists for new facilities to be developed within onshore areas within local permit jurisdiction. As a result, LCPs should clarify that such facilities require a coastal development permit and may be given priority under the Coastal Act as coastal dependent uses. Updated policies should reassess siting and design standards for onshore facilities (including support structures such as intake and outfall lines, office and storage buildings, any new road construction, etc.) to ensure that the LCP adequately addresses potential adverse impacts such as:

- The discharge of re-circulated water or effluent with high levels of organic enrichment, bacteria, virus, microorganisms and/or parasites to the environment;
- The entrainment and impingement of marine life associated with seawater intake;
- The use of chemicals, including the use of antibiotics and/or anti-fouling treatments;
- Public access, space and/or use conflicts with other coastal dependent uses and other adjacent land uses;
- Siting of facilities to avoid or minimizing exposure to coastal hazards such as erosion and sea level rise to avoid the need for future shoreline protective structures.

These facilities have been addressed in some LCPs through conditional uses in land use designations for light industrial, agricultural industrial or rural lands and associated zones. Examples of some LUP policies include:

- **County of San Luis Obispo: San Luis Bay Area Plan** (rev 2009), at:  
<http://www.slocounty.ca.gov/Assets/PL/Area+Plans/San+Luis+Bay+Coastal+Area+Plan.pdf>
- **County of San Luis Obispo: South County Coastal Area Plan**, at:  
<http://www.slocounty.ca.gov/Assets/PL/Area+Plans/South+County+Coastal+Area+Plan.pdf>

Example ordinance language includes:

- **County of San Luis Obispo: Coastal Zone Land Use Ordinance**, see page 8-16, at:  
<http://www.slocounty.ca.gov/Assets/PL/Land+Use+Ordinances/Title+23+-+Coastal+Zone+Land+Use+Ordinance/Title+23+Coastal+Zone+Land+Use+Ordinance.pdf>
- **Monterey County LCP: North County Land Use Plan**, see pages 15 and 49, at:  
[http://www.co.monterey.ca.us/planning/docs/plans/NC\\_LUP\\_complete.PDF](http://www.co.monterey.ca.us/planning/docs/plans/NC_LUP_complete.PDF)
- **Santa Barbara County Article II: Coastal Zoning Ordinance**, at:  
<http://www.sbcountyplanning.org/pdf/A/Article%20II%20Coastal%20Zoning%20Ordinance%2005-2013%20update.pdf>

*Sec. 35-136. Aquaculture.*

*1. Aquaculture facilities located in areas designated as rural on the land use plan maps shall be sited and designed to be compatible with the natural surroundings.*

2. *To minimize impacts on coastal visual resources, structures shall be well-screened, and depressed below grade when feasible.*

3. *Intake and outfall lines for ocean water shall be underground unless not feasible for a particular operation, i.e., salmon culture.*

4. *If above-ground channels or pipes are necessary, adequate provisions for lateral beach access shall be required.*

◆ Emerging Technologies to Provide Renewable Energy

Commercial technologies to produce energy from wind, waves and tides have advanced. While most wave energy proposals are offshore within the Commission's regulatory jurisdiction, local governments may see more proposals for onshore support facilities in conjunctions with large industrial offshore proposals or proposals for development of other alternative energy facilities onshore, such as wind and solar energy facilities. Renewable energy facilities can be proposed as large scale commercial operations, small scale freestanding accessory structures or attached additions to other buildings, and standards for regulating such facilities will differ. For example, wind turbines or other alternative energy structures proposed on a large agricultural parcel may need to consider siting and intensity issues and impacts to agricultural land protection. Small scale attached additions may need to address height limits. Because the potential coastal planning issues may differ, the updated LUP land use designations and policies should consider the range of possible type, siting and scale of facilities and should differentiate appropriate policy standards.

An update of the LUP can provide the opportunity to develop policies that encourage and protect the ability to use alternative energy consistent with the Coastal Act, including Section 30253(d) that provides that new development minimize energy consumption.

There are other state provisions which pertain to the review of solar energy systems (for example, see Section 714 of the Civil Code and Section 65850.5 of the Government Code.) These other codes provide that it is the policy of the state to promote and encourage the use of solar energy systems and to remove obstacles to their installation and use including minimizing the costs of permitting such systems.

However, the Coastal Act standards still apply to approval of solar energy systems. Therefore, LCPs should be updated to encourage and facilitate development of renewable energy in a manner that meets requirements of Chapter 3 policies of the Coastal Act in the siting and design of such facilities, and in considering ways to avoid and to mitigate potential resource impacts.

Updated LCPs should anticipate impacts from such emerging technologies and ensure that updated policies are adequate to address, for example,



- Protection of the scenic and visual qualities of coastal areas and compatibility with the character of the surrounding areas,
- Protection of wildlife such as birds and bats from turbine impacts, through design modifications, alternative technologies and monitoring,
- Siting to protect sensitive coastal resources,
- Conflicts with other users of the coast such as recreational users,
- Protection of marine life, water quality and public access in the siting and design of any shore-based energy devices.
- Siting of on-shore components of offshore communication/transmission cables (such as connections and facilities),
- Requirements for coastal development permits consistent with the Coastal Act and California Code of Regulations, including any measures under which permits for small scale renewable energy facilities would be streamlined.

The Commission has acted on a number of small projects for additions of solar panels to existing structures and has, in many cases, streamlined review of these applications. The Commission has reviewed only a few proposals for freestanding solar arrays or wind turbines and in some cases denied or conditioned them for inconsistencies with policies of the Coastal Act or certified LCP, as applicable. It may be useful to review these cases noted below to better understand some of the specific coastal zone issues addressed by the Commission.

The Commission approved facilities for a solar panel, wind turbine, and associated skid-mounted sensors onto the roof of an existing building at Santa Cruz Municipal Wharf. The permit was limited to one year as part of a research project designed to evaluate the efficacy of these alternative energy sources. These types of pilot projects will help further identify ways the Commission can encourage renewable energy projects while protecting sensitive coastal resources. See the staff report at:

- **Coastal Development Permit No. 3-10-061 (City of Santa Cruz & UCSC, Santa Cruz)**, March 9, 2011, at:  
<http://documents.coastal.ca.gov/reports/2011/3/F11a-3-2011.pdf>

Information about how to consider Coastal Act policy concerns is available by reviewing other Commission actions that may have denied or conditioned such development, for example, at:

- **Coastal Permit Appeal A-3-SCO-05-073-A1 (Porter SFD Modifications)**, January 2010, at:  
<http://documents.coastal.ca.gov/reports/2010/1/Th9a-1-2010.pdf>

For a proposal for wind generating turbines by the Los Angeles Unified School District, the Commission did not authorize the portion of the original project to

allow construction of 36 electric generating wind turbines, but approved other modifications. The original permit approval for a high school was conditioned for a one year avian survey before the District could submit an amendment for proposed wind turbines. Commission action on subsequent amendments approved 6 vertical axis wind turbines with conditions to mitigate potential adverse impacts to birds and bats and modifications for solar energy canopies over previously approved parking lots. See the Commission report at:

- **Coastal Development Permit 5-08-251 (Los Angeles Unified School District)**, January 2009 and as amended July 2012, at: <http://documents.coastal.ca.gov/reports/2012/7/Th17a-7-2012.pdf>

Another appeal was a partial denial of a proposed permit amendment for a 60-ft.-high, 3 kw. wind turbine mounted on a 60 ft. high, 1 sq. ft. lattice structure stabilized with guy wires on a site west of Highway One, in an area designated “highly scenic” in the County’s LCP .

- **Coastal Development Permit No. A-1-MEN-94-105-A3 (Garrison, Mendocino Co.)**, September 2006, at: <http://documents.coastal.ca.gov/reports/2006/9/F10a-9-2006.pdf>