
# Federal Agency Authority to Contract for Electric Power and Renewable Energy Supply

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# Summary

The federal government purchases roughly 57 million megawatt-hours of electricity annually (based on FY2007 data, the latest information available), making it the single largest U.S. energy consumer. The Department of Defense (DOD) alone consumes over 29 million megawatt-hours. The federal Power Marketing Administrations (PMAs) sell electricity at more than twice the volume of federal power purchases, over 127 million megawatt-hours of hydropower annually, and are projected to produce wind-generated energy far in excess of the 2005 Energy Policy Act (EPAct) mandates for increasing federal use of renewable energy.

Various statutes and regulations authorize federal agencies to enter into contracts for their utility services and designate the General Services Administration (GSA) as the lead federal contracting agency. Utility services include electricity, natural gas, water, sewerage, thermal energy, chilled water, hot water, and steam. GSA may enter into "area-wide contracts" for up to 10 years with electric utility service suppliers to cover the needs of federal agencies within the supplier's franchise territory. GSA has delegated certain authority to DOD to enter into utility service contracts on behalf of the military departments, and delegated similar authority to other federal agencies. DOD can also enter into contracts for up to 30 years for services to operate energy generating facilities on military installations. To meet the EPAct renewable energy goals, multi-year "power purchase agreements" (upwards of 10 to 20 years) are proposed with small and merchant renewable power generators. The agreements would fully commit funds up front, contrary to the pay-as-you-go rules of the 1990 Budget Enforcement Act.

In addition to utility service contracts, federal agencies can also take advantage of utility sponsored incentive programs for reducing energy demand. Demand response and load management programs provide rate incentives and/or cash payments to utility customers in exchange for curtailing their energy demand during peak usage periods. Utility energy service contracts (UESCs) enable federal agencies to enter into contracts with utilities to implement energy and water related improvements at their facilities. Agencies may also fund energy-savings improvement projects with appropriations, or the utility may arrange to finance the project's capital cost up front and recover the investment through its rate charge. Energy saving performance contracts (ESPCs) enable federal agencies to install energy efficiency improvements with no upfront capital costs. The 2007 Energy Independence and Security Act (EISA) authorized federal agencies to combine appropriated funds and energy service companies' (ESCO) private financing for ESPCs. The authority expands agencies' opportunities to install solar energy generation.

The 1978 Public Utilities Regulation Policies Act (PURPA) defined a new class of small renewable energy generators that produce less than 80 megawatts and required electric utilities to purchase the electricity generated at the utility's "avoided cost" of power production via a state-authorized "power purchase" contract (also referred to as a power purchase agreement). However, state laws and regulations vary on the use of the contracts. States are more likely to permit the contracts when the purchaser is a utility, because the utility is responsible for providing firm uninterrupted power to the customer. Four PMAs market and distribute hydropower in 34 states to public utility districts and cooperatives at cost-based rates. EPAct directed the PMAs to study the economic and engineering feasibility of combining wind-generated energy with hydropower and to conduct a demonstration project that uses wind energy generated by Indian tribes. Short of amending federal contract authority, federal agencies may have recourse to meet EPAct mandates by purchasing power through the PMAs.

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# Introduction

The federal government consumed roughly 57.4 million megawatt-hours (0.1958 quads) of electricity to operate all of its U.S. facilities in FY2007 (the latest information available), making it the single largest U.S. electric consumer.[1] The Department of Defense (DOD) alone consumed more than half, some 29 million megawatt-hours.[2] However, the federal Power Marketing Administrations (PMAs) generate hydropower at more than twice the volume of annual federal power consumption, over 127 million megawatt-hours.

EPAct 2005 required federal agencies to reduce energy consumption and improve energy efficiency through increased use of renewable energy. Specifically, Section 203 of EPAct required federal agencies to increase renewable energy purchases to a minimum of 7.5% of overall energy purchases by 2013. Since most renewable forms of energy available substitute for conventionally generated electric power (including hydropower), federal agencies will likely meet the 7.5% goal through purchases of wind and solar photovoltaic generated power; an equivalent of 4.3 million megawatt-hours based on FY2007 consumption. Agencies will receive double credit toward achieving the 7.5% goal for renewable energy generated on their facility sites. Due to radar interference problems associated with wind turbines operating near military installations, solar photovoltaic power represents the most likely prospect for achieving site-generated power on DOD facilities (the largest federal consumer).[3]

The General Services Administration (GSA) has general statutory authority to enter into utility service contracts of up to 10 years for all federal agencies. It has delegated this authority to the DOD and other federal agencies. DOD also has the authority to enter into contracts of up to 30 years for power generation on military bases. Other laws authorize federal agencies to take advantage of privately financed energy efficiency improvements paid through savings in energy costs for minimum contract lengths of 25 years. Utilities also offer incentives to their agency-customers for reducing energy demand. The PMAs already sell a small percentage of their power to federal agencies, and have the authority to assist federal facilities in meeting their renewable energy goals.

Executive Order (EO) 13423 (*Strengthening Federal Environmental, Energy and Transportation Management,* January 24, 2007) followed up by requiring federal agencies to purchase at least one-half of their annual renewable energy from new renewable energy sources (i.e., placed in service after January 1, 1999), preferably from projects located on agency property where feasible. EO 13423 also allows agencies to use new "non-electric" renewable energy sources to meet the requirement for new renewable energy.[4] More recently, Executive Order 13514

[1] See U.S. Department of Energy, *Annual Report to Congress on Federal Government Energy Management and Conservation Programs Fiscal Year 2007*, January 27, 2010, Figure 1, http://www1.eere.energy.gov/femp/regulations/facility_reports.html. CRS used a conversion factor of 1 quad = 293,297,222 mWh.

[2] See CRS Report R40111, *Department of Defense Facilities Energy Conservation Policies and Spending*, by (name re dacted).

[3] Office of the Director of Defense Research and Engineering, *The Effect of Windmill Farms on Military Readiness*, U.S. Department of Defense, Report to the Congressional Defense Committees, 2006, http://www.defense.gov/pubs/pdfs/windfarmreport.pdf.

[4] Examples of non-electric renewable energy include thermal energy from solar ventilation pre-heat systems, solar heating and cooling systems, solar water heating, ground source heat pumps, biomass-fueled heating and cooling, and thermal uses of geothermal and ocean resources. However, these non-electric renewable energy sources cannot apply to meeting the 2005 act's renewable federal electricity purchase requirement. In 2010, an agency could use non-electric (continued...)

(*Sustainability and Greenhouse Gas Emissions Reduction*) directs federal agencies to establish greenhouse gas reduction targets through reduced energy intensity in buildings, increased renewable energy use, and renewable energy projects on agency property.[5]

As federal agencies work to meet their renewable energy goals, they encounter a number of options and barriers in contracting with small renewable power generators. The small generators, in turn, need federal contracts with much longer terms than the typical 10-year utility service agreement to convince investors of their project's viability. The typical utility agreement also provides firm uninterruptible power that the utility guarantees through its base-load generators, peaking plants, and power purchase agreements with merchant generators. When federal agencies previously purchased "renewable energy certificates" (RECs) to satisfy renewable energy goals, they received firm power backed by their service agreement.[6] Agencies desiring to contract directly with small renewable power generators may not find similar guarantees.

This report summarizes the various statutes and regulations authorizing the General Services Administration (GSA), the Department of Defense (DOD), and other federal agencies to enter into contracts for their electric utility services and purchase of renewable generated electricity. It also discusses the potential for expanding the role of the PMAs in meeting future renewable energy goals. The renewable energy industry is a subject in its own right and beyond the scope of this report; for some background discussion on the industry refer to CRS Report R41954, *U.S. Renewable Electricity Generation: Resources and Challenges*, by (name redacted) and (name redacted). The **Appendix** to this report summarizes energy purchasing authorities (**Table A-1**) and renewable energy contracting options (**Table A-2**).

# Multiyear Contract Authority to Acquire Services

Federal agencies may acquire goods and services using multiyear contracts under the authority of the Federal Property and Administrative Services Act of 1949 (Section 304B), as codified in 41 U.S.C. 254(c). DOD has similar authority to acquire property using multi-year contracts under 10 U.S.C. 2306(b). General military laws governing the Armed Forces acquisition process fall under 10 U.S.C. Chapter 137–*Procurement.*

The term "acquisition" means the process of using appropriated funds to contract for the purchase or lease of property or services that support the missions and goals of an executive agency, as defined in 41 U.S.C. 403 (Public Contracts). The general "procurement" process includes all the

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renewable energy equal to 2.5% of its electricity to satisfy EO 13423, and then use old renewable energy sources for 5% of its use to satisfy EPAct, for a total equivalent of 7.5% of its electricity use from renewable energy.

[5] See CRS Report R40974, *Executive Order 13514: Sustainability and Greenhouse Gas Emissions Reduction*, by (name redacted) and (name redacted).

[6] A renewable energy certificate (REC) represents the property rights to the environmental, social, and other non-power qualities of renewable electricity generation. A REC, and its associated attributes and benefits, can be sold separately from the underlying physical electricity associated with a renewable-based generation source. As renewable generators produce electricity, they create one REC for every 1,000 kilowatt-hours (or 1 megawatt-hour) of electricity placed on the grid. If the physical electricity and the associated RECs are sold to separate buyers, the electricity is no longer considered "renewable" or "green." The REC product is what conveys the attributes and benefits of the renewable electricity, not the electricity itself. See, Environmental Protection Agency, Green Power Partnership, http://www.epa.gov/greenpower/gpmarket/rec.htm.

steps agencies take in acquiring property or services, beginning with determining a need for property or services and ending with contract completion and closeout. In a departure from some traditional contracting practices, contracting officers have the authority to sole-source energy service improvements to an electric utility company or electricity provider under 42 U.S.C. 8256.

Agencies may enter into multi-year contracts for services or supplies for up to five program years (unless further authorized by statute) even though the total funds ultimately to be obligated may not be available at the time of contract award.[7] A multi-year contract may include the provision that performance under the contract during the second and subsequent contract years is contingent upon the appropriation of funds, and may provide for a cancellation payment to the contractor if Congress does not appropriate funds. If Congress does not appropriate funds to support the succeeding years' requirements, the agency must cancel the contract.

All federal agencies must follow the Federal Acquisition Regulations (FAR) System in Title 48 of the Code of Federal Regulations (C.F.R.).[8] Individual federal agencies may also develop their own internal guidance beyond the FAR System, as has DOD under the Defense Federal Acquisition Regulation System (DFARS).[9]

# Contract Authority for Public Utility Services

GSA has authority to enter into contracts for public utility services for terms not exceeding 10 years (in 40 U.S.C. 501). Utility services include electricity, natural gas, water, sewerage, thermal energy, chilled water, hot water, and steam. The contracts may take the form of basic utility service agreements, or area-wide contracts. Agencies typically pay for the services through annually appropriated operation and maintenance funds. GSA, in turn, has delegated to DOD the authority to enter into utility service contracts on behalf of the military departments. The contract period cannot exceed 10 years. However, the Secretary of Defense may exempt the DOD from any action taken by the GSA Administrator in the interest of national defense.

## Utility Service Agreements

Utility service agreements provide rate-paying customers with public utility services. This form of agreement represents the traditional means by which a federal facility or military installation contracted with a local utility to provide electric power, natural gas, water, and sewer service.[10] Generally, the agreement required annual renewal. However, the agreement (contract) may extend up to 10 years under any of the following circumstances:[11]

[7] See 48 C.F.R. 17.104—General.

[8] Title 48 C.F.R.–The Federal Acquisition Regulations System. Also, see P.L. 93-400 Office of Federal Procurement Policy Act of 1974 as amended by P.L. 96-83 Office of Federal Procurement Policy Act, *http://homepage.mac.com/slotcarbob/buchtel69/nowandthen.htmlAmendments* of 1979. Federal Acquisition Regulations are available at http://farsite.hill.af.mil/ VFDFARA.HTM.

[9] See 48 C.F.R. Parts 201 through 299.

[10] FAR Subpart 41.2 Acquiring Utility Services, See FAR 41.205—Separate contracts.

[11] See FAR 41.103.

(1) The federal government will obtain lower rates, larger discounts, or more favorable terms and conditions of service.

(2) There is a reduction or elimination of any proposed connection charge, termination liability, or any other facilities charge that the federal government must pay.

(3) The utility service supplier refuses to render the desired service except under a contract exceeding a one-year period.

### Area-Wide Contracts

Area-wide contracts (AWCs) essentially provide public utility services on an indefinite-delivery, indefinite-quantity basis (an IDIQ contract). The FAR describes an "area-wide contract" as a "contract entered into between the GSA and a utility service supplier to cover utility service needs of Federal agencies within the franchise territory of the supplier" (the utility's geographically regulated service area).[12] Generally, AWCs provide federal agencies with a means for ordering utility services at rates approved or established by a regulatory body and published in a tariff rate schedule. Apart from the authority that GSA has delegated to DOD and the Department of Energy (DOE), other federal agencies may request GSA to delegate similar authority. Once delegated, agencies may negotiate other rates, terms, and conditions of service.

## Energy Incentive Programs

Apart from directly contracting for utility services, federal agencies may take advantage of several programs to reduce their energy demands directly through sponsored utility programs, or indirectly through programs authorized by Congress. Typically funded out of annually appropriated operation and maintenance (O&M) accounts, these programs eliminate the need for requesting direct appropriations for an energy-related improvement. For example, agencies may find opportunities under these programs to install renewable-generated energy projects (for example roof-top photovoltaic systems) that offset electricity use during peak electric rate periods, and also help directly satisfy renewable energy goals in lieu of purchasing RECs. Although these programs may reduce energy use, they do not necessarily guarantee energy cost savings.

### Demand-Side Management

Demand response and load management programs are a form of utility incentive programs.[13] In these programs, utility companies typically provide rate incentives and/or cash payments to their customers in exchange for curtailing their energy demand during peak usage periods. This helps increase the utility's system reliability and reduce the need for constructing new generation facilities. Demand-side management includes energy conservation, energy efficiency, and load

[12] FAR, Part 41—Acquisition of Utility Services.

[13] The Deparment of Energy Federal Energy Management Program (FEMP) outlines energy incentive programs available to federal agencies on a state-by-state basis at http://www.femp.energy.gov/financing/energyincentiveprograms.html.

management techniques.[14] Customers who choose these programs may install back-up generators or fuel cells to meet their needs during curtailment episodes. Federal agencies can take advantage of this opportunity through their utility service provider.

## Utility Energy Service Contracts

Utility energy service contracts (UESCs) enable federal agencies to enter contracts with utilities to implement energy- and water-related improvements at their facilities. Agencies may fund projects with appropriations, or the utility may arrange to finance the project and recover the cost through its billing charge. In the latter case, the customer's utility charges may remain unchanged. The end benefit of UESCs to federal agencies is the ability to implement energy projects with no initial capital investments, minimal net costs, and savings of time and resources. These improvements ultimately serve federal goals for reducing energy use.

## Energy Savings Performance Contracts

The National Energy Conservation Policy Act authorized federal agencies to enter into multi-year contracts with energy service providers that implement energy savings measures in exchange for a share of the energy savings directly resulting from the implemented measures (42 U.S.C. 8287(a)(1)). Energy savings performance contracts (ESPCs) enable federal agencies to install energy efficiency improvements with no upfront capital expenditure, thus eliminating the need for directly appropriating funds for the energy efficiency improvement. Instead, the agency pays an energy service company (ESCO) through its annually appropriated budget for operation and maintenance, which typically pays for utility costs (energy, water, or wastewater treatment).

ESPCs must meet three statutory funding limitations:

- The contractor must incur the total costs of implementing the energy conservation measures (ECMs). (42 U.S.C. 8287(a)(1))
- Agency payments to a contractor cannot exceed the amount that agency would have paid for utilities and related expenses absent an ESPC. (42 U.S.C. 8287(a)(1(2)(B))
- Any amount an agency paid under an ESPC can come from funds appropriated or otherwise made available for the payment of utility costs, and related operation and maintenance expenses. (42 U.S.C. 8287a)

The Congressional Budget Office (CBO) views ESPCs as imposing a future financial obligation on the federal government. CBO began scoring ESPCs as mandatory spending, coinciding with the expiration of the 1990 Budget Enforcement Act (P.L. 101-508) pay-as-you-go (PAYGO) rules. CBO scoring reflects how ESPCs create future commitments to appropriations. The Government Accountability Office (GAO) finds that the benefits of ESPCs could be achieved using upfront funds (that is, fully funded in advance) and with lower financing costs, but agencies generally do not receive sufficient funds upfront for doing so and see ESPCs as a necessary supplement to upfront funding in order to achieve the energy savings benefits.[15]

[14] See 15 U.S.C. 3202.

[15] U.S. Government Accountability Office, Energy Savings—Performance Contracts Offer Benefits, but Vigilance Is (continued...)

The Energy Independence and Security Act of 2007 (P.L. 110-140—EISA) established federal policy prohibiting ESPC contract periods of less than 25 years.[16] EISA also authorized federal agencies to combine appropriated funds with ESCO private financing for ESPCs' improvements.[17] EISA provided no clarification on implementing the funding provision, however. In the absence of DOE rulemaking or guidance from the Office of Management and Budget, agencies thus far have been able to combine funding under the 2009 American Recovery and Reinvestment Act (ARRA, P.L. 111-5). In the case of DOD, Military Construction appropriations directly fund energy improvements through the Energy Conservation Investment Program.

# Contracts for Energy for Military Installations

DOD has the unique authority to enter into contracts for up to 30 years for services that provide and operate energy production facilities on military installations, and, in turn, purchase the energy generated from such facilities (in 10 U.S.C. 2922a—Contracts for Energy or Fuel for Military Installations). The costs of the contract for a particular year must be paid from annual appropriations for that year. The Defense Logistics Agency (Energy) acts as the executive agent for purchasing fuel and electricity for DOD (and other federal agencies) and offers assistance in purchasing renewable energy through its Renewable Energy Initiatives team.[18]

Out of necessity, many military bases and installations relied on their own electric power plants at one time, as their isolated locations placed them beyond utility service territories. In many cases, military installations continued to operate their World War II-era power plants and utility systems well into the late 20th century. The plant and utility systems' inefficiencies and the expense of modernizing them led DOD to begin selling them off or privatizing them in the late 1990s and buy back the generated power (similar to a leaseback).[19] As an alternative to updating or replacing some of the lost generating capacity, DOD has begun making underutilized land available for privately financed energy projects.

# Underutilized Land Lease for Renewable Energy Projects

Interest in offsetting power consumption and reducing vulnerability to power supply disruption has prompted DOD to offer underutilized land for privately financed, renewable energy generation projects. Under such an arrangement, a developer installs a renewable energy system on agency property under an agreement that the agency will purchase the power generated by the system. The agency pays for the system through these power payments over the life of the

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*Needed to Protect Government Interests*, GAO-05-340, June 2005, http://www.gao.gov/new.items/d05340.pdf.

[16] Section 513.

[17] 42 U.S.C. 8287 (a)(2(e).

[18] http://www.desc.dla.mil/.

[19] Statement of John B. Goodman, Deputy Under Secretary of Defense (Industrial Affairs and Installations) Before the Subcommittee on Readiness of the Senate Armed Services Committee, March 11, 1998, http://armed-services.senate.gov/statemnt/980311jg.htm.

contract. After installation, the developer owns, operates, and maintains the system for the life of the contract. Contract terms determine energy prices and buyback options for the system.[20]

Such arrangements, if successful, provide a mutual benefit to the three parties involved. The installation benefits by reducing its power costs. The project developer benefits by generating a steady revenue stream and tax benefits. The local utility benefits through the avoided cost of new generating capacity, thus freeing up generating capacity for peak demand/peak rate periods. Ultimately, the taxpayer benefits when a government facility reduces its energy costs, which is reflected in a decreased energy budget request.

DOD may enter into multiyear contracts for supplies if the use of such contracts will promote national security of the United States (10 U.S.C. §2306b (a) (6)). DOD's authority allows leases for military lands under terms that either promote national defense or are in the public interest, paid in cash or in-kind at not less than the fair market.

DOD lease authority under 10 U.S.C. 2667 is limited to land not needed at the time for public use or defined as excess property (under 40 U.S.C. 102). The lease may not exceed five years unless a longer lease period would promote national defense or the public interest. The lease payment must be based on fair market value (in cash or in-kind). The lease terms cannot provide for a leaseback in excess of $500,000 annually.[21] In-kind consideration offered by the private developer may include:

- facility/real property maintenance, repair, improvement, or restoration (including environmental restoration);
- new facilities construction;
- providing or paying for utility services; or
- providing other services that may be appropriate.

Under these terms, military installations have undertaken major energy projects that directly benefit them by offsetting the cost of their energy use, as illustrated in the following examples.

## Nellis Air Force Base Photovoltaic Array

Nellis Air Force Base, NV, hosts a 14-megawatt solar photovoltaic array that provides the base with renewable solar power utility service.[22] The solar array provides an annual energy output of 30.1 megawatt-hours, which meets up to 25% of the base's total electricity needs. SunPower Corporation financed, constructed, operates, and maintains the array. As an incentive for constructing and operating the array, Nellis conveyed 140 acres of unused real property through a 20-year site access agreement (straight land lease) at a nominal annual fee. SunPower has guaranteed a rate for up to 20 years, but Nellis' contract with SunPower commits the government to no more than 12 months service at a time and allows the government to terminate the contract

[20] http://www1.eere.energy.gov/femp/financing/power_purchase_agreements.html.

[21] A leaseback is an arrangement where the seller of an asset leases back the same asset from the purchaser. A leaseback arrangement is useful when companies need to untie cash invested in an asset for other investments, but the asset is still needed in order to operate.

[22] Nellis Air Force Base Solar Power System, http://www.nellis.af.mil/shared/media/document/AFD-080117-043.pdf.

with a one-year notice. SunPower's rate saves Nellis an estimated $1 million annually, compared to the rates charged by Nevada Energy (the local utility). For reliability and safety reasons, the solar array transmits power through Nevada's distribution system; Nellis does not take direct delivery from the array.

Although the electricity qualifies as renewable power, Nellis cannot claim RECs for the power purchase. SunPower owns the RECs, which the government offered as an incentive for privately financing the solar array's construction. SunPower in turn has the contractual right to sell them to Nevada Energy. SunPower also benefits from investment tax credits in the project.

The Nellis array represents a unique project that other military installations may not easily duplicate. Nevada established a renewable portfolio standard as part of its 1997 restructuring legislation. Under the standard, Nevada Energy must use eligible renewable energy resources to supply a minimum percentage of the total electricity it sells. In 2001, Nevada increased the minimum requirement by 2% every two years, culminating in a 15% requirement by 2013, and subsequently increased the requirement to 25% by 2025.

## Coso Geothermal Project, China Lake

Under authority granted by 10 U.S.C. 2917, the DOD may develop any geothermal energy resource within lands under the DOD's jurisdiction, including public lands, for the use or benefit of the military. DOD benefits by offsetting its energy utility costs with the lease payments. A geothermal energy project developed under this authority cannot deter commercial development and use of other portions of such resource if offered for leasing.

The Coso Geothermal Field, located on the Naval Air Weapons Station, China Lake (east central California), hosts four geothermal power-generators that have been continuously operated since 1987 by the China Lake Joint Venture (Guy F. Atkinson/Mitsubishi Heavy Industries of America, Inc.).[23] Under the 1978 Public Utilities Regulation Policies Act (PURPA), the Southern California Edison (SCE) must buy the power. (See PURPA in the discussion below). Thus, Coso does not physically wheel (directly transmit) power to China Lake. At its peak generating capacity, Navy Unit 1 produces more than 270 megawatts of electricity that it sells to the local utility grid under a long-term power sales agreement. The field has produced more than 26 million megawatt-hours of electricity since 1987.

According to a 2004 Government Accountability Office (GAO) report, Coso generated an average of $14.7 million annually in royalties and other revenues for the Navy between 1987 and 2003.[24] The Navy's contract with the China Lake Joint Venture established three sources of annual revenue: (1) royalty payments on the sale of electricity, (2) payments toward the base's electricity bill, and (3) bonus payments for voluntarily conserving electricity usage at the base. In total, the power plant operator received about $2.3 billion from the sale of electricity produced by the China Lake power plants between 1987 and 2003 and paid approximately $249 million, or about 11%, to the Navy.

[23] Francis C. Monastero, Geothermal Program Office, U.S. Naval Air Weapons Station, China Lake, *An Overview of Industry-Military Cooperation in the Development of Power*, Geothermal Resource Council, Bulletin Vol. 31, No. 5, Sep.-Oct. 2002, http://www.geothermal.org/articles/coso.pdf.

[24] Government Accountability Office, *Geothermal Energy, Information on the Navy's Geothermal Program*, GAO-04-513, June 2004.

# PURPA, Qualified Facilities and Merchant Generators, and Power Purchase Agreement

The Public Utility Regulatory Policies Act of 1978 (PURPA, P.L. 95-617) established electric utility service practices and ratemaking standards for state regulatory authorities and non-regulated utilities. PURPA defined a new class of generating facilities that would receive special rate and regulatory treatment.[25] Qualifying facilities (QFs) under the definition included "small power" production facilities that generate less than 80 megawatts using solar, wind, geothermal, biomass, or waste.[26] PURPA also required utilities to buy power from QFs within their service territory (with some exceptions) at the utility's "avoided cost" of power production via a state authorized "power purchase" contract—more commonly referred to as a "power purchase agreement."[27] Avoided cost is the regulatory-determined incremental cost a utility would have to pay if the utility purchased or generated the electricity itself.[28]

The Energy Policy Act of 1992 (P.L. 102-486) later created a new class of wholesale generators (independent power producers) exempt from regulation under the Public Utility Holding Act of 1935 (PUCHA, 15 U.S.C. 79) and allowed them to sell electricity to the wholesale market.[29] In 1995, the Federal Energy Regulatory Commission (FERC) issued Order No. 888 allowing open access to the electrical transmission system, which allowed independent (or merchant) power producers a method of shipping their power to market.[30]

The DOE Federal Energy Management Program (FEMP) describes a power purchase agreement somewhat differently than the PURPA-inferred definition. (FEMP provides guidance on federal laws and regulations to assist federal energy managers in complying with energy management requirements and goals.) Under the FEMP definition, a developer installs a renewable energy system on an agency's property under an agreement that the agency will purchase the power generated by the system.[31] The agency pays for the system through monthly (or annual) payments for power over the life of the agreement. The developer owns and continues to operate and

[25] See 16 U.S.C Sec 796 (17)(A) 'Small power production facility' Definition.

[26] There are some limited exceptions to the 80 megawatt size limit that apply to certain facilities certified prior to 1995 and designated under Section 3(17)(E) of the Federal Power Act (FPA) (16 U.S.C. § 796(17)(E)), which have no size limitation. In order to be considered a qualifying small power production facility, a facility must meet all of the requirements of 18 C.F.R. §§ 292.203(a), 292.203(c), and 292.204 for size and fuel use, and be certified as a QF pursuant to 18 C.F.R. § 292.207. See Federal Energy Regulatory Commission, http://www.ferc.gov/industries/electric/gen-info/qual-fac/what-is.asp.

[27] On June 16, 2011, the Federal Energy Regulatory Commission set a precedent by allowing three California utilities to terminate their mandatory purchase obligations that would have required new contracts with qualifying cogeneration and small power production facilities ("QF") with over 20 megawatt of net capacity under PURPA. 135 FERC ¶ 61,234 United States of America Federal Energy Regulatory Commission Order Granting Application to Terminate Purchase Obligation Docket No. QM11-2-000, issued June 16, 2011.

[28] See 18 C.F.R. 292.101 Definitions.

[29] Sec. 711 Treatment of Independent Power Producers under PUCHA.

[30] Order No. 888—Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities.

[31] FEMP, Power Purchase Agreements, http://www1.eere.energy.gov/femp/financing/power_purchase_agreements.html.

maintain the system for the life of the contract. FEMP offers to assist federal agencies in writing agreements with renewable energy project developers.[32]

Although FERC is responsible for implementing PURPA, it allows state public service commissions or public utility commissions certain regulatory roles regarding power purchase agreements. However, state laws and regulations vary on allowing small qualified generators to sell the agreements. States are more likely to permit their use for renewable generated power when the purchaser is a utility, because the utility is responsible for providing firm uninterrupted power to its customers. Because wind- and solar-generated power may be variable and intermittent, the utility must also be able to bring "peaking" power plants online to make up power losses.

While DOD can take direct advantage of underutilized lands to attract and site renewable energy projects, other federal agencies may be able to take advantage of indirect opportunities through the federal Power Marketing Administrations.

# The Power Marketing Administrations and the Tennessee Valley Authority

Federal power marketing originated in early 20th century federal water reclamation and flood control projects as a means to recoup their construction costs through the sale of hydro-generated power at wholesale rates to regional consumers.[33] Power generation was a secondary opportunity, as most dams were constructed for flood control or navigation purposes. At about the same time, the Depression-era Rural Electrification Administration, essentially a government financing agency, provided subsidized loans to private companies, public agencies, or cooperatives to construct electrical supply infrastructure in rural regions as a means of economic development.

The Department of Energy Organization Act of 1977 (P.L. 95-91) transferred management of the federal power marketing administration (PMA) functions from the Department of the Interior to DOE.[34] This included the power marketing activities authorized under Section 5 of the Flood Control Act of 1944 and all other functions of the Bonneville Power Administration, the Southeastern Power Administration, the Southwestern Power Administration, and the power marketing functions of the Bureau of Reclamation that have been transferred to the Western Area Power Administration. The Alaska Power Administration was privatized in 1996, but is still considered to be a PMA. The Tennessee Valley Authority is a separate agency which serves similar functions, and is not considered a PMA. Operations of the Bonneville Power Administration are financed principally under the authority of the Federal Columbia River Transmission System Act (P.L. 93-454). Under this act, the Bonneville Power Administration is authorized to use its revenues to finance the costs of its operations, maintenance, and capital construction, and to sell bonds to the Treasury if necessary to finance any additional capital program requirements. The remaining three PMAs are funded annually with appropriations.

[32] FEMP, Power Purchase Agreements, http://www1.eere.energy.gov/femp/financing/power_purchase_agreements.html.

[33] Energy.Gov, Power Marketing Administrations, http://www.energy.gov/organization/powermarketingadmin.htm.

[34] H.Rept. 112-118, Energy And Water Development Appropriations Bill, 2012.

The four federal PMAs are responsible for marketing and distributing hydropower—primarily produced by federal dams and projects operated by the Corps of Engineers and the Bureau of Reclamation—to 60 million people in 34 states. They have a combined generating capacity of 34,305 megawatts, and reported gross power sales of roughly 127.1 million megawatt-hours. All four PMAs give preference in the sale of their power to publicly owned and cooperatively owned utilities.

FERC may issue an order requiring the physical connection of any small power production facility or the transmission facilities of any electric utility with any PMA upon application by either party (16 U.S.C. 824(i). Interconnection Authority). The cost of interconnection, that is, building new transmission lines, is a separate matter. The 2005 Energy Policy Act (EPAct) directed a study to determine the economic and engineering feasibility of combining wind generated energy with hydropower and a demonstration project that uses wind energy generated by Indian tribes.[35]

The Western Area Power Authority has the authority to supply federal agencies in its service territory (facilitated through contracting assistance by FEMP).[36] The roles that other PMAs may have in supplying federal agencies are not so clearly delineated. A detailed discussion of the PMAs' legislated authority is outside the scope of this report. However, their capabilities are briefly discussed below. Although the Tennessee Valley Authority was privatized, it has been added to this discussion for historical background purposes.

## Bonneville Power Administration

The Bonneville Power Administration (BPA), created by the Bonneville Project Act of 1937 (16 U.S.C 832 et seq.), is headquartered in Portland, OR. BPA markets wholesale electrical power generated by 31 federal hydroelectric projects owned and operated by the U.S. Army Corps of Engineers and Bureau of Reclamation, one nonfederal nuclear plant, and some small nonfederal resources. BPA supplies about one-third of the electric power used in the Northwest and operates over three-fourths of the region's high-voltage transmission lines. Roughly 80% of its capacity is hydropower. BPA reached an all time 60-minute peak generating capacity of 18,139 megawatts in 2002, and gross power sales exceeded 76.5 million megawatt-hours in FY2010.[37]

In 2010, BPA reported that it had integrated 3,000 megawatts of wind energy capacity into its transmission system and that it expects to reach 6,000 megawatts by 2013.[38] Assuming an average availability of 33%, the future capacity potentially represents 17 million megawatt-hours annually.[39] BPA's commitment to buying renewable wind-generated power came under fire recently, however. Near-flood conditions in the Columbia River forced the agency to divert the

[35] 25 U.S.C.§§ 3505- 3506.

[36] WAPA, Renewable Resources for Federal Agencies, http://www.wapa.gov/powerm/pdf/renewresbro09_rev0710.pdf.

[37] Bonneville Power Administration, *2010 Annual Report*, p. 31, http://www.bpa.gov/corporate/Finance/A_Report/10/AR2010.pdf.

[38] Bonneville Power Administration, *2010 Annual Report*, http://www.bpa.gov/corporate/finance/A_Report/10/index.html, p. 15.

[39] 6,000 mW x 24 hr x 365 day x 0.33 = 17,344,800 mWh.

high water through its hydroelectric turbines.[40] The excess generated power forced BPA to cut fed-in wind-generated power until the water level subsided.

BPA does not receive government appropriations, but does borrow from the U.S. Treasury. It recovers all of its costs through sales of electricity and transmission services, which it also uses to repay any money it borrows with interest.

## Southeastern Power Administration

The Southeastern Power Administration (SEPA) was created in 1950 by the Secretary of the Interior to carry out the functions assigned to the Secretary by the Flood Control Act of 1944. Headquartered in Elberton, GA, SEPA markets electric power generated at reservoirs operated by the U.S. Army Corps of Engineers in a 10-state region in the southeast and mid-Atlantic region of the United States.[41] It does not own transmission facilities and must contract with other utilities to provide transmission, or "wheeling" services, for the generated power. With a total generating capacity of 3,392 megawatts, SEPA reported gross power sales of 5.9 million megawatt-hours in FY2009 (the most current information available).[42]

## Southwestern Power Administration

The Southwestern Power Administration (SWPA) markets hydroelectric power in a six-state region from 24 U.S. Army Corps of Engineers multipurpose dams with a total generating capacity of 2,174 megawatts.[43] SWPA uses its annual revenue to pay the operation and maintenance expenses of its generation and transmission facilities, and to repay the principal and interest on the federal investment in the hydroelectric facilities. SWPA markets power primarily to public entities such as rural electric cooperatives and municipal utilities, representing over 8 million end-use customers. SWPA reported gross power sales of 7.4 million megawatt-hours in FY2008 (the most current information available).[44]

## Western Area Power Administration

The Western Area Power Administration (WAPA) markets hydroelectric power and related services within a 15-state region of the central and western United States. Its transmission system carries electricity from 55 hydropower plants with a combined capacity of 10,600 megawatts. The plants are operated by the Bureau of Reclamation, U.S. Army Corps of Engineers, and the

[40] Anonymous, "United States: Tilting at Windmills; Renewable Energy in the North-West," *The Economist*, Vol. 399, Issue 8738 2011, p. 37.

[41] In the states of West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee and Kentucky, and markets in southern Illinois.

[42] 2.8 million megawatt-hours from the Georgia-Alabama-South Carolina System, 0.3 million megawatt-hours from the Kerr-Philpott System, 2.6 million megawatt-hours from the Cumberland System, and 0.2 million megawatt-hours from the Jim Woodruff System. From Southeastern Power Administration, *2009 Annual Report*, 2009, http://www.sepa.doe.gov/Download/?c=25.

[43] In the states Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas.

[44] South Western Power Administration, *2008 Annual Report*, 2008, p. 6, http://www.swpa.gov/annualreport.aspx.

International Boundary and Water Commission. WAPA reported gross energy sales of 37.3 million megawatt-hours of power in FY2010, with roughly 3% going to federal agencies.[45]

WAPA's Renewable Resources for Federal Agencies (RRFA) program works with the FEMP to help federal agencies in the region meet renewable energy goals.[46] RRFA coordinates the purchase of renewable energy and/or its benefits for federal facilities with a streamlined purchase process that is intended to contain costs and give agencies greater choice in the type of renewable projects they support. WAPA issues the "request for proposal" for renewable energy products, which federal agencies pay for at cost plus FEMP's administrative fees. FEMP is empowered to cover the administrative cost of acquiring renewable resources from suppliers as a savings to agency participants.

### Tennessee Valley Authority

Congress created the Tennessee Valley Authority (TVA) to improve the navigability of and provide flood control for the Tennessee River in the 1933 TVA Act.[47] TVA stopped receiving direct federal funds to manage the Tennessee River system after 2000. However, it retains a long-term debt obligation to the federal government. TVA finances all of its programs, including those for environmental protection, river management, and economic development, through power sales and the sale of bonds in the financial markets. In 2005, federal legislation altered TVA's corporate governance structure from a three-member full-time board to a nine-member part-time board. The law also created the position of chief executive officer, which is filled by board appointment.[48]

## Policy Considerations

Electricity consumption in FY2007 cost the federal government $4.4 billion, or more than 0.5% of the $843 billion federal discretionary budget.[49] Congress has enacted various laws, since the 1970s, to reduce federal agencies' energy consumption by mandating improved energy efficiency. The 2005 Energy Policy Act (EPAct) included provisions to reduce energy and water use in congressional buildings, install advanced meters to reduce electricity use in federal buildings, enact performance standards to improve federal buildings, and allow for the creation of renewable energy offsets to reduce the federal government's electric energy consumption. The 2007 Energy Independence and Security Act (EISA) mandated further energy savings measures in government operations, including energy upgrades to the Capitol complex, permanent authority to use "energy savings performance contracts," and federal procurement of energy efficient products and renewable fuels.[50]

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[45] Western Area Power Administration, *2010 Annual Report*, 2010, p. 3, http://ww2.wapa.gov/sites/western/newsroom/Documents/annrep10.pdf.

[46] http://www.wapa.gov/powerm/pmtags.htm.

[47] http://www.tva.gov/abouttva/history.htm.

[48] TVA is regulated under Title 18 of the Code of Federal Regulations §§1300 through 1399.

[49] Annual Report to Congress on Federal Government Energy Management and Conservation Programs Fiscal Year 2007 January 27, 2010, Table 2; and Government Printing Office, Budget of the United States Government: Fiscal Year 2007, Table S–2. Discretionary Totals, http://www.gpoaccess.gov/usbudget/fy07/pdf/budget/tables.pdf.

[50] P.L. 110-140.

Federal agencies can take advantage of private financing through ESPCs and UESCs to make energy efficiency improvements without increasing their annual operating budgets. In some cases, agencies may share in the savings gained from reduced energy costs made through the improvements. New authority to combine appropriated funds with ESPCs could further energy efficiency improvements, but the lack of definitive federal regulations delays implementation.

In meeting past goals for using renewable-generated electricity, federal agencies were able to purchase RECs without purchasing the associated power. Merchant renewable energy generators in some jurisdictions can usually sell RECs in one megawatt-hour blocks, and may be able to sell them separately from the physical electricity with which they are associated. This provides customers with the flexibility to offset a percentage of their annual energy use with RECs generated elsewhere (but not necessarily transmitted through the grid to them). In 2008, GAO reported that federal agencies continued to rely on RECs rather than site-generated renewable energy to meet EPAct goals.[51] Given the need for firm uninterruptable power, it might be argued that agencies may have been better served buying RECs than taking physical delivery of an intermittent and variable power supply.

The DOE Renewable Energy Working Group developed guidance for federal agencies on meeting EPAct goals as modified by EO 13423.[52] Specifically,

- To comply with the wording of EPAct, agencies must consume renewable energy to count it toward the goal. Simply producing renewable energy on a federal site does not count as use.
- Purchasing renewable energy certificates (RECs) is equivalent to purchasing and consuming renewable electricity and does count toward the goal (until 2012).

After 2012, federal agencies will be no longer be able to count RECs toward meeting EPAct energy-intensity reduction goals, as the REC credits will be phased out. To take credit toward meeting the goal, agencies must take direct delivery of renewable generated electricity. To take double credit, for new renewable small generators, the federal facility must host the generator (provide land) and directly purchase the power (with the additional burden of providing backup power). Federal agencies may find themselves reluctant to make underutilized land available for new renewable generation projects if not permitted to credit the projects toward meeting EPAct goals (as in the case of Nellis Air Force Base, which must buy the electricity from Nevada Power). Roof-top photovoltaic generation would meet the double credit criteria, with the advantage of acquisition through an ESPC (paid through annual operation and maintenance budgets). Alternatively, installations may be able to take credit for purchasing power from new small or merchant generators, if their local utility service provides the necessary grid-connection and power purchase agreements with the generator, notwithstanding the additional cost of providing the grid-connection.

Utilities may be reluctant to sign up new small and merchant renewable generators in states lacking a renewable portfolio, however. States with renewable portfolio standards (RPS) play a

[51] U.S. Government Accountability Office, Federal Energy Management-Addressing Challenges through Better Plans and Clarifying the Greenhouse Gas Emission Measure Will Help Meet Long-Term Goals for Buildings, GAO-08-977, September 2008, http://www.gao.gov/new.items/d08977.pdf.

[52] The DOE Renewable Energy Working Group (REWG) provides a forum for federal agencies and the renewable energy industry to exchange information, http://www1.eere.energy.gov/femp/technologies/renewable_workinggroup.html.

significant role in influencing wind power development, in particular. As of June 2011, 29 states and Washington, DC, had instituted mandatory RPS programs. In 2010, U.S. wind generated capacity exceeded 40,000 megawatts. (For comparison, coal-fired generating plants range may average 500 megawatts in capacity, and nuclear power plants upwards of 1,000 megawatts.) In aggregate, these states are estimated to require roughly 100,000 megawatts of new renewable capacity by 2035, representing 7% of total U.S. retail electricity sales.[53] U.S. solar photovoltaic generated power reached 1,100 megawatts in 2008, with nearly 64% made up by rooftop installations.[54] Most of DOD's solar photovoltaic projects have been rooftop installations in the United States.[55]

Even in states with renewable portfolio standards, the opportunities for new small and merchant generators may be decreasing. New wind energy projects dropped off in 2010 due to a variety of factors including limited availability of investment capital and the slumping overall demand for energy.[56] Relatively low natural gas and wholesale electricity prices have contributed to utilities' reduced demand for wind-energy power purchase agreements.[57] A major challenge facing the wind industry is the time it takes to build transmission lines needed to send power to customers.[58] A wind farm can take a year to build compared to five years to build the transmission lines (not including any permitting delays). The lack of transmission line access to markets or willing buyers may also delay wind project expansion.

One solution proposed to incentivize new small renewable generators is the offer of a long-term or multi-year contract with a commitment for full contract funding upfront (through a one-time appropriation). Multi-year contracts are currently limited to five years and are contingent upon the annual appropriation of funds. If Congress does not appropriate funds to support the succeeding years' requirements, the agency must cancel the contract. Contracts for public utility services have terms up to 10 years, funded through annual appropriations. Energy Savings Performance Contracts cannot be less than 25 years, but funding depends upon annual appropriation. DOD can enter into 30-year contracts to operate facilities that generate electricity on military facilities, also funded through annual appropriation. In all cases, the contractor understands the risk that the federal government may terminate a contract for convenience.[59]

Agencies pursuing long-term contracts with new small or merchant renewable energy generators face certain barriers imposed by PAYGO rules. Annually appropriated operation and maintenance budgets pay for utility spending. Commitments for long-term spending must come from a

[53] DOE, *2010 Wind Technologies Market Report, p.62 -63.*

[54] U.S. Department of Energy, *2008 Solar Technologies Market Report*, January 2010, p. 6, http://www.nrel.gov/analysis/pdfs/46025.pdf.

[55] U.S. Government Accountability Office, *Defense Infrastructure Department of Defense Renewable Energy Initiatives*, GAO-10-681R Defense Infrastructure, August 26, 2010.

[56] U.S. Department of Energy, *2010 Wind Technologies Market Report*, June 2011, p. 3, http://www.windpoweringamerica.gov/filter_detail.asp?itemid=3207.

[57] Kate Galbraith, "Lack of Transmission Lines Is Restricting Wind Power," *The Texas Tribune Reprinted by The New York Times*, January 20, 2011.

[58] Texas State Energy Conservation Office, *Wind Energy - Transmission*, http://www.seco.cpa.state.tx.us/re_wind-transmission.htm.

[59] FAR Subpart 17.1 Multi-year Contracting, 17.104 General (d): "The termination for convenience procedure may apply to any Government contract, including multiyear contracts. As contrasted with cancellation, termination can be effected at any time during the life of the contract (cancellation is effected between fiscal years) and can be for the total quantity or partial quantity (where as cancellation must be for all subsequent fiscal years' quantities)."

different account, fully authorized and appropriated in advance. The 1990 Budget Enforcement Act (BEA, P.L. 101-508) created the "pay-as-you-go" (PAYGO) rules, later amended by the 2010 Statutory Pay-As-You-Go Act (Title I of P.L. 111-139). Under PAYGO rules, any increases in mandatory spending as scored by the Congressional Budget Office must be offset by mandatory spending cuts or increased revenues.[60] In addition, the BEA imposed limits on discretionary spending, that is, on funds provided through the annual appropriations process. Long-term contracts proposed for purchasing power from renewable energy projects potentially represent future unfunded commitments if funded through annual appropriations (much the same way that ESPCs do). Nevertheless, the DOE Renewable Energy Working Group encourages federal agencies to enter into contracts for periods of 10 years or longer (with the caveat "where not prohibited by law"), but offers no further guidance on obtaining full upfront funding in advance of the contract commitment that renewable generators would prefer.[61] In the House Report to the 2012 Energy and Water Development Appropriations bill, the committee reminded DOE of the constitutional provision that "No money shall be drawn from the Treasury but in consequence of Appropriation made by law."[62]

Finally, the federal PMAs already market renewable power in the form of hydropower (as defined in 42 U.S.C. 7372) at a wholesale cost basis. Bonneville Power has already integrated wind-generated power and projects a future annual capacity of 17 million megawatt-hours (6,000 megawatts at 33% availability), which would far exceed the EPAct renewable goal of 4.3 million megawatt-hours. Although PURPA established an opportunity for small renewable generators to sell power and required utilities to purchase the power, the cost to utilities sometimes exceeds the avoided cost. Federal customers could request a PMA to apply to FERC to purchase new renewable power and resell it through their local utility, notwithstanding the additional cost of interconnection. Applying wholesale power rates to offset the cost of interconnection and above-avoided-cost renewable power could provide some federal customers an alternative to upfront multi-year contracting.

In considering whether renewable energy goals are sufficient reason to amend contract laws and authorize federal agencies to commit scarce budget resources up front, Congress may also wish to consider whether expanding the role for the federal PMAs might offer federal agencies an alternative to direct contracting.

[60] The Statutory Pay-As-You-Go Act of 2010 (Title I of P.L. 111-139, 124 Stat. 8-29), enacted on February 12, 2010, is intended to discourage or prevent Congress from taking certain legislative action that would increase the on-budget deficit. It generally requires that legislation affecting direct spending or revenues not increase the deficit over the six-year and 11-year time periods. (see CRS Report R41510, *Budget Enforcement Procedures: House Pay-As-You-Go (PAYGO) Rule*, by (name redacted)*Budget Enforcement Procedures: House Pay-As-You-Go (PAYGO) Rule*, by (name redacted))

[61] FEMP, *Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423*, January 28, 2008, p. 14, http://www1.eere.energy.gov/femp/technologies/renewable_workinggroup.html.

[62] Article I, Section 9 of the United States Constitution.

# Appendix. Summary of Energy Purchasing Authorities

The following table summarizes the various federal statutes and regulations that authorize federal agencies to enter into contracts for energy services.

**Table A-1. Energy Service Contract Authorities**

| | | |
|---|---|---|
| **GSA-related Authorities** | | |
| 40 U.S.C. 501 | *Service for executive agencies procurement and supply* | In general, the Administrator of the General Services Administration (GSA) has the authority to procure services for executive agencies, but the Secretary of Defense may exempt the Department of Defense from any action taken by the Administrator in the interest of national defense.<br><br>Under (b)(1)(B) Public utility contracts, the Administrator may procure contracts for public utility services for a period of not more than 10 years. |
| 40 U.S.C. 591 | *Purchase of Electricity* | Limits a department or agency from using appropriations to purchase electricity inconsistent with state law governing the provision of electric utility service, including state utility commission rulings, and state established electric utility franchises or service territories. However, DOD may enter contracts under 42 U.S.C. 8287 or purchase electricity from any provider if a state-approved utility franchise is unwilling or unable to meet service reliability standards. |
| 42 U.S.C. 8287 | *Energy Savings Performance Contracts* | Agencies may enter into contracts to achieve energy savings and benefits ancillary to that purpose. A federal agency cannot establish a federal agency policy that limits the maximum contract term to a period shorter than 25 years. |
| FAR Part 41 | Acquisition of Utility Services | Under 41.103 (b) *Delegated authority*, GSA has delegated its authority to enter into utility service contracts for periods not exceeding ten years to DOD. |
| DFARS PGI 241_2 | Acquiring Utility Services | Defines "definite term contract" as a utility services contract for a definite period of not less than one or more than 10 years. "Indefinite term contract" means a month-to-month contract for utility services that may be terminated by the government upon proper notice. |
| **DOD-specific Authorities** | | |
| 10 U.S.C. 2304 | *Contracts: competition requirements* | Provides for full and open competition with competitive procedures in accordance with the requirements of this chapter and the Federal Acquisition Regulation. |
| 10 U.S.C. 2667 | *Leases: non-excess property of military departments and Defense Agencies* | Authorizes the lease of lands under the Defense Secretary's control that otherwise are not needed at the time for public use or defined as excess property under 40 U.S.C. 102. The lease may not exceed 5 years unless the Secretary determines that a longer lease period would promote national defense or public interest. The lease payment (in cash or in kind) cannot be less than the fair market value of the lease interest. The lease terms cannot provide for a leaseback in excess of $500,000.<br><br>In-kind consideration may include: |

| | | |
|---|---|---|
| | | • facility/real property maintenance, repair, improvement, or restoration (including environmental restoration).<br>• new facilities construction.<br>• providing or paying for utility services.<br>• providing other services that may be appropriate. |
| 10 U.S.C. 2686 | *Utilities and services: sale; expansion and extension of systems and facilities* | Permits DOD to sell or contract to sell utility services (electric power) to purchasers within or in the immediate vicinity of a military activity if the services are not available from another local source and that the sale is in the interest of national defense or in the public interest.<br>Proceeds of sales must be credited to the appropriation currently available for the supply of that utility or service. |
| 10 U.S.C. 2688 | *Utility systems: conveyance authority* | The Secretary of a military department may convey a utility system, or part of a utility system, to a municipal, private, regional, district, or cooperative utility company or other entity. Consideration for a conveyance may be an amount equal to the fair market value and may take the form of a lump sum payment or a reduction in charges for utility services. A contract for the receipt of utility services as consideration may not exceed 10 years. However, the contract may exceed 10 years but not more than 50 years, if determined that a contract for a longer term is cost effective. |
| 10 U.S.C. 2913 | *Energy savings contracts and activities* | Military departments and Defense agencies may participate in gas or electric utility programs for managing energy demand, or for energy conservation. |
| 10 U.S.C. 2917 | *Development of geothermal energy on military lands* | Authorizes the Secretary of a military department to develop, or authorize the development of, any geothermal energy resource within lands under the Secretary's jurisdiction, including public lands, for the use or benefit of the Department of Defense. Development cannot deter commercial development and use of other portions of such resource if offered for leasing. |
| 10 U.S.C. 2922a | *Contracts for energy or fuel for military installations* | The Secretary of a military department may enter into contracts for periods of up to 30 years for the provision and operation of energy production facilities and the purchase of energy from such facilities. |
| **Federal Power Marketing Administration Authorities** | | |
| 42 U.S.C. 7152 | *Transfer from Department of the Interior* | Transferred functions relating to electric power and administrative authority for the Southeastern Power Administration, Southwestern Power Administration, Bonneville Power Administration, Bureau of Reclamation power marketing functions, and Falcon Dam - Amistad Dam - Rio Grande project to the Department of Energy. |
| 16 U.S.C. 825a | *Sale of electric power from reservoir projects; rate schedules; preference in sale; construction of transmission lines; disposition of moneys* | Authorizes the Secretary of Energy to transmit and dispose of excess energy generated at Army (Corps of Engineers) reservoir projects at the lowest possible rate (wholesale) to consumers. Further authorizes the Secretary of Energy to make energy available in wholesale quantities to federally owned facilities. |
| 16 U.S.C. 825s-1 | *Southwestern area sale and transmission of electric power; disposition of receipts; creation of continuing fund; use of fund* | References Southwestern Power Administration in the First Supplemental national Defense Appropriations Act of 1944 (57 Stat. 621).<br>The First Supplemental National Defense Appropriations Act, 1944, referred to in text, was enacted December 23, 1943, ch. |

| | | |
|---|---|---|
| | | 380, title I, Sec 101, 57 Stat. 621, which was not classified in the Code.<br><br>Also, see Flood Control Act of 1944, Section 5. |
| 16 U.S.C. 825s-5 | *Southeastern Power Administration; deposit and availability of advance payments* | Flood Control Act of 1944, Section 5 (see **Note a**). |
| 16 U.S.C.. 831 | *Tennessee Valley Authority* | Created for the purpose of maintaining and operating the properties owned by the United States in the vicinity of Muscle Shoals, Alabama, "to improve navigation in the Tennessee River and to control the destructive flood waters in the Tennessee River and Mississippi River Basins." Authorized to provide and operate facilities to generate electricity at any such dam for "use of the United States or any agency thereof, ... in order to avoid the waste of water power, to transmit and market such power." |
| 16 U.S.C. 832 | *Bonneville Project* | The Bonneville Project was completed for improving navigation on the Columbia River. Congress authorized the Project administrator to make all arrangements for the sale and disposition of electric energy generated at Bonneville project not required for the operation of the dam and locks at such project and the navigation facilities employed in connection therewith. |
| 16 U.S.C. 839c | *Sale of Power* | In addition to his authorities to sell electric power, the Administrator is also authorized to sell electric power to Federal agencies in the region. |

**Note a.** Public Law 534-78TB Congress [CR.UTER 665-2 SESSION] [H. R. 4485] *An Act Authorizing The Construction Of Certain Public Works On Rivers And Harbors For Flood Control, And For Other Purposes*.

SEC. 5. *Electric power and energy generated at reservoir projects under the control of the War Department and in the opinion of the Secretary of War not required in the operation of such projects shall be delivered to the Secretary of the Interior, who shall transmit and dispose of such power and energy in such manner as to encourage the most widespread use thereof at the lowest possible rates to consumers consistent with sound business principles, the rate schedules to become effective upon confirmation and approval by the Federal Power Commission. Rate schedules shall be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electric facilities of the projects) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment allocated to power over a reasonable period of year. Preference in the sale of such power and energy shall be given to public bodies and cooperatives. The Secretary of the Interior is authorized, from funds to be appropriated by the Congress, to construct or acquire, by purchase or other agreement, only such transmission lines and related facilities as may be necessary in order to make the power and energy generated at said projects available in wholesale quantities for sale on fair and reasonable terms and conditions to facilities owned by the Federal Government, public bodies, cooperatives, and privately owned companies. All moneys received from such sales shall be deposited in the Treasury of the United States as miscellaneous receipts.*

## Table A-2. Renewable Energy Contract Options

| Contract | Application | Pros | Cons |
|---|---|---|---|
| **Utility Service Agreement** | Service within utility local franchise territory<br><br>Up to 5 years, contingent upon annual appropriation | Firm power guarantee<br><br>Annual rate adjustment<br><br>Provide local distribution with option to purchase lowest cost generation | RECs sold separate from kW<br><br>Deregulation varies from state to state |

| Contract | Application | Pros | Cons |
|---|---|---|---|
| **Area-Wide Contract** | Service to multiple agency facilities within utility franchise territory | Firm power guarantee<br>Annual rate adjustment | RECs sold separate from kW |
| **Demand Side Management** | Incentives for installing backup power generation<br>Contingent upon annual appropriation | No upfront cost to agency | No guarantee for cost savings |
| **Utility Energy Service Contract** | Utility funded energy efficiency improvements<br>Contingent upon annual appropriation | No upfront cost to agency | 25+ year contract commitment |
| **Energy Savings Performance Contract** | Upfront private financed energy efficiency improvements<br>Example: Rooftop photovoltaic installation<br>Minimum 25-year contract, contingent upon annual appropriation | ESCO funds project upfront. | Savings from reduced energy use must pay for improvement.<br>No firm power guarantee |
| **Underutilized Land Lease**. | Renewable Energy Generation Project/ Merchant Renewable Energy Generators | Lease revenue offsets utility charges. | Contract terms too short for attracting new merchant renewable energy generators<br>Works best in states with renewable portfolio standards<br>No firm power guarantee<br>No REC credit after 2012 |
| **Power Purchase Agreement** | Aggregate wholesale firm, peak, and QF generated power for resale. | Firm power guarantee if utility originated. | No firm power guarantee if federal agency originated. |
| **Power Marketing Administration** | Power to rural underserved regions | Firm power guarantee<br>Cost-based rates<br>Power Purchase Agreement with merchant renewable power generators | Limited to service regions<br>Limited experience reselling power to federal agencies |
| **DOD Facilities Energy Generation Contract** | Up to 30 years,<br>Contingent upon annual appropriation | ? | ? |

**Source:** CRS.

## Further References

CRS Report R41493, *Options for a Federal Renewable Electricity Standard*, by (name redac ted), *Options for a Federal Renewable Electricity Standard*, by (name redacted).

CRS Report R41197, *Green Procurement: Overview and Issues for Congress*, by (name redacted), *Green Procurement: Overview and Issues for Congress*, by (name redacted).

CRS Report R41040, *Identifying Incentives and Barriers to Federal Agencies Achieving Energy Efficiency and Greenhouse Gas Reduction Targets*, by (name redacted) and (name redac ted).

CRS Report R40974, *Executive Order 13514: Sustainability and Greenhouse Gas Emissions Reduction* , by (name redacted) and (name redacted)

CRS Report R40806, *Energy Projects on Federal Lands: Leasing and Authorization*, by (name redacted), *Energy Projects on Federal Lands: Leasing and Authorization*, by (name redacted) CRS Report R40175, *Wind Energy: Offshore Permitting*, by (name redacted), *Wind Energy: Offshore Permitting*, by (name redacted).

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