



WISCONSIN LEGISLATIVE COUNCIL STAFF MEMORANDUM

Memo No. 1

TO: MEMBERS OF THE SPECIAL COMMITTEE ON NUCLEAR POWER

FROM: David L. Lovell, Senior Analyst, and John Stolzenberg, Chief of Research Services

RE: Key Wisconsin Laws and Programs Relevant to the Work of the Committee

DATE: November 8, 2006

This Memo describes key Wisconsin laws and programs relevant to the work of the committee. They relate to power plants and the production of electricity, including the permitting and construction of power plants, energy efficiency, renewable energy resources, and reduction in the demand for electricity. The Memo is intended to assist the committee during its deliberations on its policy recommendations. This Memo describes laws and programs relating to the following topics:

- State energy policy.
- Moratorium on approval of new nuclear power plants.
- Construction of power plants.
- Other utility regulations.
- Energy efficiency and renewable resources.
- Incentives supporting the siting of power plants.

I. STATE ENERGY POLICY

The Legislature has created a state energy policy in s. 1.12 of the statutes. In general terms, the policy is designed to maximize reliance on energy efficiency and renewable resources by state agencies and local governments in meeting their energy needs. The energy policy is binding only on these public entities, although it also serves as a model and encouragement to others in the private sector to follow a similar path in meeting their energy needs.

An integral part of the energy policy is a priority list of options for meeting the energy demands of all energy users in the state. It states that, “to the extent cost-effective and technically feasible,” options for meeting energy demands should be considered in the order of the priority list. The options, in order of priority, are the following:

- Energy conservation and efficiency.
- Noncombustible renewable energy resources.
- Combustible renewable energy resources.
- Nonrenewable combustible energy resources, in the order listed:
 - Natural gas.
 - Oil or coal with a sulfur content of less than 1%.
 - All other carbon-based fuels.

The energy priority list and most other elements of the current s. 1.12 were developed by a special committee of the Legislative Council in 1992. The committee intentionally excluded nuclear power from the priority list.

The Department of Administration (DOA) and the Public Service Commission (PSC) are required to implement the priority list in designing and implementing energy programs and making energy-related decisions and orders. [ss. 16.95 (13) and 196.025 (1), Stats.] Previously, the PSC was required to consider the priority list in considering proposals for the purchase or construction by a public utility of an electric power plant and other major electric power facilities, including consideration of energy efficiency and renewable resource as alternatives to the proposed project. Under the provisions of 2005 Wisconsin Act 141, successful implementation of statewide energy efficiency and renewable resource programs and the renewable portfolio standard, described below, are in essence substituted for PSC consideration of alternatives that include energy efficiency and renewable resources in such a proceeding.

II. MORATORIUM ON APPROVAL OF NEW NUCLEAR POWER PLANTS

While the energy policy in s. 1.12 would appear to establish an implicit policy against the construction of new nuclear power plants, the moratorium statute, in s. 196.493, Stats., creates such a policy in explicit terms. The latter statute states that the PSC *may not approve the construction of a nuclear power plant unless* it makes two findings:

First, the PSC must find that there is a facility, either federally approved or outside the United States, with *adequate capacity for the disposal of all high-level nuclear waste* from all nuclear power plants operating in Wisconsin.

Second, the PSC must find that the proposed nuclear power plant is *economically advantageous* to ratepayers, in comparison with feasible alternatives, based on all of the following:

1. The existence of a reliable and adequate supply of nuclear fuel.
2. The costs of construction, operation, and decommissioning of nuclear power plants and of disposing of nuclear waste.
3. Any other factors having an impact on the economics of nuclear power plants, as determined by the PSC.

III. CONSTRUCTION OF POWER PLANTS

Certificate of Public Convenience and Necessity

No person may commence construction of an electric generating facility with a capacity of 100 megawatts (Mw) or more or an electric transmission line exceeding one mile in length and designed for operation at 100 kilovolts (Kv) or more without a PSC approval. This approval is known as a *certificate of public convenience and necessity* (CPCN). [s. 196.491 (3), Stats.]

Under the CPCN statute, as a condition of the PSC approving a CPCN for a proposed power plant, the PSC must determine that the plant meets a number of specified criteria. However, if a proposed plant is a wholesale merchant plant or a nuclear power plant, some of these criteria do not apply. Also, the PSC's approval of a CPCN for a nuclear power plant is subject to the PSC making the findings in the moratorium statute described above. The criteria the PSC must consider are the following:

- The plant satisfies the reasonable needs of the public for an adequate supply of electric energy.
- The design and location of the plant is in the public interest considering all of the following:
 - Alternative sources of supply.
 - Alternative locations.
 - Individual hardships.
 - Engineering factors.
 - Economic factors.
 - Safety factors.
 - Reliability factors.
 - Environmental factors.
- The plant will not have an undue adverse impact on other environmental values such as, but not limited to, ecological balance, public health and welfare, historic sites, geological formations, the aesthetics of land and water, and recreational use.

- If the application is by a public utility, the plant will not do any of the following:
 - Substantially impair the efficiency of the utility's service.
 - Provide facilities unreasonably in excess of the utility's probable future requirements.
 - Add, in general, to the utility's cost of service without proportionately increasing the value or available quantity of service.
- The plant will not unreasonably interfere with the orderly land use and development plans for the area involved.
- The plant will not have a material adverse impact on competition in the relevant wholesale electric service market.
- "Brownfields" are used for the plant's site to the extent practicable.

The criterion on need and the public interest tests on alternative sources of supply, and the engineering and economic factors do not apply to a proposed wholesale merchant plant. Wholesale merchant plants produce electricity for sale in the wholesale electricity market. Public utilities and electric cooperative associations, among others, presently buy and sell electricity in this market. "Wholesale merchant plant" is defined to be electric generating equipment that does not provide service to any retail customer and that is owned or operated by either a person that is not a public utility or, subject to PSC approval, an affiliated interest of a public utility (such as a non-utility company owned by a holding company that also owns the utility).

The Nuclear Regulatory Commission also licenses the construction and operation of commercial nuclear power plants in the United States under the Atomic Energy Act of 1954, as amended, 42 USC 2011, *et.seq.* A number of federal court decisions have determined or affirmed that this act preempts the state regulation of a nuclear power plant with respect to radiological health and safety. [See, for example, *Northern States Power Co. v. Minnesota*, 447 F.2d 1143.] Thus, when reviewing a CPCN application for a nuclear power plant, the PSC is precluded from considering issues relating to radiological health and safety.

If the PSC fails to take final action on a complete application for a CPCN within 180 days, the PSC is considered to have issued the CPCN. (This requirement has been referred to as a "pocket approval" requirement.) This time period may be extended by the Dane County Circuit Court for up to an additional 180 days upon petition by the PSC; it does not apply to a multistate project requiring action by another state.

Other Construction Approvals

Large power plants are typically subject to a variety of environmental approvals administered by the Department of Natural Resources (DNR) and other state agencies in addition to the requirement to obtain a CPCN. State law specifies a 120-day limit for the DNR action on any permits and approvals it administers that are required prior to construction of the facility. The DNR process may not be extended and is not subject to a pocket approval requirement. In addition, DNR and PSC are required to

coordinate, and thereby shorten, the review and approval of proposed power plants, including their review of the environmental effects of a proposed plant.

If a public utility proposes to construct a power plant smaller than 100 Mw, the utility must obtain a certificate of approval (CA) from the PSC under s. 196.49, Stats., for the plant before the utility can start to construct the plant. Construction of power plants of this size by entities that are not public utilities is not subject to regulation by the PSC.

Advance Determination of Rate-Making Principles for New Power Plants

A public utility that proposes to build or purchase a power plant may request the PSC to determine, in advance and by order, the underlying principles (e.g., rate of return on capital) by which the PSC will treat the recovery of the capital costs of the facility in setting rates for the utility. [s. 196.371, Stats.] These principles directly affect the returns investors in major utility capital projects may realize. The statute is designed to encourage investments in such projects by ensuring that a future PSC will not change these principles in the life of an investment. The PSC may issue an order if it finds that the proposed principles provide a sufficient degree of certainty to the utility, investors, and ratepayers with respect to future recovery of the facility's costs, and that the order is otherwise in the public interest.

The utility has the option to accept or "waive acceptance," i.e., reject the rate-making principles that the PSC specifies, within a deadline set by the PSC. If the utility accepts the principles, the principles then become binding on the PSC in all future rate-making proceedings regarding the utility. If the utility rejects the principles, the PSC will consider the costs of the facility in the manner in which it does for other utility facilities. If the utility does not either accept or reject the principles before the deadline, the utility is considered to have rejected the principles.

The PSC may not require a utility to apply for an advance determination of rate-making principles, nor may it require the utility to either accept or reject rate-making principles specified by the PSC. The principles shall be binding on the PSC in its treatment of the recovery of the capital costs of the facility that is the subject of the order. By implication, the order has no effect once the capital costs of the facility have been fully recovered. Also, the PSC may not consider the order or its effects in its treatment of the recovery of any other cost of the utility.

IV. OTHER UTILITY REGULATIONS

Strategic Energy Assessment

Public utility law directs the PSC to prepare a biennial strategic energy assessment that evaluates the adequacy and reliability of the state's current and future electrical supply. This assessment is prepared for informational purposes to inform the public and policy makers and is not referenced in any regulatory process or requirements in public utility law in ch. 196, Stats.

The assessment must identify and describe all of the following:

- Power plants over 100 Mw in capacity and 100 Kv or larger high-voltage transmission lines that any person, including electric utilities, plan to start construction within three years.

- Any plans for ensuring that there is an adequate ability to transfer electric power into the state and the “transmission area” in eastern Wisconsin in a reliable manner.
- The projected demand for electric energy and the basis for determining the projected demand.
- Activities to discourage inefficient and excessive power use.
- Existing and planned generating facilities that use renewable sources of energy.

In addition, the assessment must assess all of the following:

- The adequacy and reliability of purchased generation capacity and energy to serve the needs of the public.
- The extent to which the regional bulk-power market is contributing to the adequacy and reliability of the state’s electrical supply.
- The extent to which effective competition is contributing to a reliable, low-cost and environmentally sound source of electricity for the public.
- Whether sufficient electric capacity and energy will be available to the public at a reasonable price.

Finally, the assessment must consider the public interest in economic development, public health and safety, protection of the environment, and diversification of sources of energy supplies.

The draft version of the PSC’s “2012 Energy” draft Strategic Energy Assessment (dated June 2006) may be accessed via the PSC’s electric industry - major cases web page at the PSC’s web site at <http://psc.wi.gov/index.htm>.

Sale of Power Plants

Current law specifies that an electric utility may not sell, acquire, lease, or rent any public utility plant or property constituting an operating unit or system, unless the PSC has consented to and approved the transaction. To provide this consent and approval, the PSC must find that the transaction is consistent with the public interest. [s. 196.80 (1m) (e) and (3), Stats.]

V. ENERGY EFFICIENCY AND RENEWABLE RESOURCES

Wisconsin has long had active programs to advance both the efficiency with which we use energy and the use of renewable energy resources. Although transportation and other energy sectors have been addressed by the programs, the greatest effort has been on efficiency in the use of electric power and natural gas and the generation of electricity from renewable resources.

Programs Serving Private Users of Electricity and Natural Gas

Programs to assist private users of electricity and natural gas have taken various forms over the years. As the programs were recently restructured, all investor-owned electric and natural gas utilities are required to collectively fund and contract for the administration of statewide energy efficiency and renewable resource programs. Beginning July 1, 2007, each utility must spend 1.2% of its annual operating revenues for these programs which, based on 2004 utility revenues, would be approximately \$82.4 million. Some utilities, with PSC approval or under PSC order, administer separate energy efficiency and renewable resource programs for their customers only. The PSC is directed to oversee the programs, setting goals and priorities, establishing program design standards, and coordinating all state energy efficiency and renewable resource programs. Municipal utilities and electric cooperatives are required to conduct similar programs of their own (referred to as “commitment to community” programs) or contribute to the statewide programs. The PSC does not oversee commitment to community programs. [s. 196.374, Stats.]

The DOA administers additional programs specifically to assist low-income households, using a combination of federal and utility funds. These programs include weatherization assistance to low-income customers to reduce their energy consumption and costs. In addition, the programs provide direct bill payment assistance for customers who were unable to make full payments and early intervention programs to identify and assist customers in danger of falling behind in bill payments. [ss. 16.27 and 16.957, Stats.]

Renewable Portfolio Standard

A renewable portfolio standard (RPS) is a requirement that suppliers of electric power include in their portfolio of electric supply a specified amount of generation capacity that relies on renewable resources. The original Wisconsin RPS, created in 1999, called for electric utilities and electric cooperatives to provide 2.2% of their sales from renewable resources by 2011, but this had already been surpassed by 2005. As recently revised, the RPS statute requires electric providers to determine a baseline percentage of sales electricity from renewable resources and increase that percentage by specified amounts, with the effect of increasing the *statewide* percentage of sales from renewable resources to approximately 10% by 2015. Electric power suppliers may comply with the standard by generating electricity from renewable sources, buying electricity from another generator that uses renewable sources, or buying credits from another supplier that has generated or bought more electricity from renewable sources than required to meet the standard itself. [s. 196.378, Stats.]

Building Codes

In addition to the programs described above, the state promotes energy conservation in the private sector through building codes promulgated by the Department of Commerce. The codes relating to commercial buildings, one- and two-family dwellings, historic buildings, and rental residential units include explicit energy conservation codes. The Commercial Building Code also incorporates the entire International Energy Conservation Code, developed by the International Code Council, by reference. In some instances, such as lighting standards for commercial buildings, the statutes direct the department to consider energy conservation in setting specific standards.

Energy Use by State and Municipal Governments

Buildings

The Division of Energy, DOA, has conducted numerous programs for public buildings similar to the utility programs for private energy users, described earlier. These have included programs to identify and finance efficiency improvements in buildings operated by state agencies, municipalities, school districts, and the University of Wisconsin System.

With regard to construction of new state facilities, various statutes require the DOA or Building Commission to do all of the following:

- Apply life-cycle cost analysis of building projects and of the energy-consuming systems used in the projects. [ss. 13.48 (2) (i) and 16.75 (10e), Stats.]
- Utilize cogeneration of steam and electricity and renewable energy systems in building projects, with specific references to passive, active, and photovoltaic solar, biomass and refuse-derived fuels, and geothermal energy. [ss. 13.48 (2) (h) and (k) and 16.897, Stats.]
- Establish energy efficiency standards, more strict than those in the state building codes, for equipment installed in state buildings and ensure that the standards are adhered to. [s. 16.855 (10s), Stats.]

A new program targets the energy use of the six state agencies that consume the great majority of electricity purchased by the state. First, each agency must prepare biennial energy cost reduction plans that include all system and equipment upgrades that will pay for themselves over the life of the systems or equipment. Second, DOA must set goals for the use of renewable energy by each agency, with the overall goal that 10% of all state agencies' energy use is derived from renewable resources by 2007, and 20% by 2011. [ss. 16.75 (12) and 16.953, Stats.]

Procurement

State agencies are required to consider life-cycle cost analyses in purchasing supplies and equipment, whenever such analysis is appropriate. [s. 16.75 (1) (a) 1. and (1m), Stats.] In addition, DOA operates an alternative fuels program in the state car fleet. The department is directed to require the maximum use by state employees of vehicles powered by gasohol or alternative fuel. This requirement was recently expanded to include hybrid-electric vehicles assembled in this country. [s. 16.045, Stats.]

VI. INCENTIVES SUPPORTING THE SITING OF POWER PLANTS

Proposals to build major utility facilities, such as power plants or transmission lines, often meet resistance from individual land owners affected by the project and local governments in or through which the project will be built. Objections from municipalities often relate to specific impacts a project will have on the community or costs the project will impose on the community. The objections may relate to subjective or even intangible matters, such as impaired aesthetics or reduced desirability of a locale, and so reduce the value of affected properties. Others may be very concrete, such as anticipated

road damage by trucks during plant construction or operation. This part briefly describes financial incentives that both project developers and the state use to address the opposition of local governments to new power plants. There are not similar state authorized incentives to individual land owners. The Memo does not address state required payments from transmission line owners to local governments for new high voltage transmission lines located within the local government's boundaries.

Utility Shared Revenue

Power plants, substations, and "general structures," such as office buildings, owned by electric utilities or cooperatives or wholesale producers of electricity, are exempt from property taxes. Instead, these entities pay a gross receipts tax to the state. The state makes an annual utility shared revenue distribution in two payments to municipalities (cities, villages, and towns) and counties in which power plants, substations, and general structures are located. [s. 79.04, Stats.] The original utility share revenue distributions were in lieu of the property tax revenues that the municipalities and counties would receive if the facilities were taxable industrial property. Distributions relating to new power plants have been created to also serve as incentives to local governments to not oppose the siting of facilities in or near their territory.

Distribution for Old Plants

For power plants that began operation before January 1, 2004, the distributions are based on the net book value of the plants, less the value of the land and pollution control equipment, plus the net book value of substations and general structures, times a mil rate of 9 mills. The portion of the value of a plant that exceeds \$125 million is excluded from the calculation. For facilities located in a city or village, the municipality receives 2/3 of the formula amount and the county receives 1/3; for facilities located in towns, this proportion is reversed.

For a power plant that is owned and operated by an electric cooperative that was operating prior to July 30, 2003, and that has an ash disposal facility, the amount of the distribution must be based on twice the net book value of the ash disposal facility.

Distribution for Spent Nuclear Fuel Storage

Regardless of the caps on distributions described below, each municipality and county in which spent nuclear fuel is stored receives an additional payment of \$50,000 per year. If the storage facility is located within one mile of a municipality, that municipality receives \$10,000 annually and the host municipality receives \$40,000 annually. If the nuclear power plant is located in more than one county, the county spent nuclear fuel storage distribution for counties is apportioned between the counties based on the value of the plant in each county, with the minimum payment being \$10,000 annually.

Distributions for New Plants

For new or "repowered" power plants that begin operation after December 31, 2003, the annual distribution is based on the design capacity of the plant. In addition to a basic distribution for these new plants, there are up to three additional incentive distributions that could apply to these plants.

Basic Distribution. The amount of the annual distribution for a new or repowered power plant that begins operation after December 31, 2003 by an electric public utility, qualified wholesale electric company, electric cooperative, or municipal electric utility is the design (or “name-plate”) capacity of the plant, expressed in megawatts, times \$2,000. A plant must have a capacity of at least one Mw to qualify for this distribution.

If the plant is located in a city or village, the municipality receives 2/3 of this amount and the county in which the municipality is located receives the other 1/3. If the plant is located in a town, the town receives 1/3 of this amount, and the county in which the town is located receives the other 2/3. If the plant is located in more than one municipality, the payment is divided among the municipalities in which it is located based on the net book value of the portion of the plant located in each municipality as of December 31, 2004, or the date on which the plant is in operation, whichever is later.

Brownfields and Other Specified Sites Incentive. This incentive applies to a power plant with a design capacity of at least one Mw, other than a nuclear-powered facility, that is built: (a) on or adjacent to the site of an existing or decommissioned power plant; (b) on a site that was purchased by a public utility before January 1, 1980, and that was identified as a proposed power plant site in an advance plan; or (c) on or adjacent to a brownfield. Both the municipality and the county in which a qualifying power plant is located will receive an annual payment equal to the plant’s design capacity, expressed in megawatts, times \$600.

Baseload Electric Generating Facility Incentive. This incentive applies to a baseload electric generating facility that has a design capacity of at least 50 megawatts. A “baseload electric generating facility” is an electric generating facility that has a capacity factor that is greater than 60%, as determined by the PSC. “Capacity factor” is the anticipated actual annual output of an electric generating facility expressed as a percentage of the facility’s potential output. The PSC may review a facility’s capacity factor at any time.

Both the municipality and county in which a qualifying power plant is located will receive an annual distribution equal to the plant’s design capacity, expressed in megawatts, times \$600.

Since power plants’ outputs vary from year-to-year, some power plants could meet the definition of a baseload plant in some years, but not in others and, thus, qualify. Such a plant qualifies for this incentive distribution only in the years that it does meet this definition.

Alternative Energy and Cogeneration Plants Incentive. This incentive applies to a power plant that has a design capacity of at least one megawatt and that either: (a) derives energy from an alternative energy resource; or (b) is a cogeneration production plant. Both the municipality and county in which a qualifying power plant is located will receive an annual distribution equal to the design capacity of the plant, expressed in megawatts, times \$1,000.

If a plant is powered by an alternative energy resource together with a fuel that is not an alternative energy resource, the capacity used in this formula is the portion of the plant’s design capacity multiplied by a fraction equal to the energy content of the alternative energy resource used at the plant in the prior year divided by the energy content of all fuels used at the plant in the prior year.

An “alternative energy resource” is a renewable energy resource, as used in the public utility law’s provisions on renewable portfolio standards, garbage, or nonvegetation-based industrial, commercial, or household waste.

A “cogeneration production plant” is a power plant that produces electricity and another form of thermal energy, such as heat or steam, that is used for industrial, commercial, heating, or cooling purposes.

Distribution for Decommissioned Power Plants

For a power plant that is subject to the basic distribution for old or new plants and that is decommissioned, the municipality and county in which the plant is located are paid a distribution equal to the following percentages of the utility shared revenue distribution that the municipality or county received during the last year that the plant was exempt from property tax, less the amount of property taxes paid for that property during the current year to the municipality or county:

- In the first year that the property is taxable, 100%.
- In the second year that the property is taxable, 80%.
- In the third year that the property is taxable, 60%.
- In the fourth year that the property is taxable, 40%.
- In the fifth year that the property is taxable, 20%.

Caps on Basic Distributions

The total amount provided to a municipality under the prior basic distributions for old and new power plants and for substations and general structures, is capped at \$300 times the municipality’s population per year. A county’s similar distribution is capped at \$100 times the county’s population per year. Subject to these caps, a municipality or county where a power plant with a capacity of at least 200 Mw is located is guaranteed a payment of \$75,000 per year.

Examples of Distributions

In 2006, state utility shared revenue distributions to municipalities and counties totaled \$38,570,713. This amount was divided among the following categories of aid:

- Distributions for substations, general structures, and old power plants based on net book values and mill rates, \$32,080,696.
- Basic distributions for new power plants based on plant capacity, \$4,447,617.
- Incentive distributions for new power plants, \$1,742,400.
- Distributions for spent nuclear fuel storage, \$300,000.

Example 2006 Distributions Based on the Mill Rate Formula

Kewaunee Nuclear Plant

Scope: Includes distributions for the plant, and substations and general structures in the municipality, and for spent nuclear fuel storage.

Town of Carlton distribution: \$334,124.

Kewaunee County distribution for property in the Town of Carlton: \$618,249.

Point Beach Nuclear Plant

Scope: Includes distributions for the plant, and substations and general structures in the municipality, and for spent nuclear fuel storage. The Town of Two Creeks distribution is limited by, and based on, the cap on distributions in the aid formula of \$300 per capita.

Town of Two Creeks distribution: \$215,000.

Manitowoc County distribution for property in the Town of Two Creeks: \$815,958.

Pleasant Prairie Coal-Fired Plant

Scope: Includes distributions for the plant, and substations and general structures in the municipality.

Village of Pleasant Prairie distribution: \$780,233.

Kenosha County distribution for property in the Village of Pleasant Prairie: \$390,166.

Example 2006 Distributions Based on the Capacity Formula

Riverside Combined Cycle Plant

Scope: Includes distributions for the 600 Mw plant and incentive aid for being adjacent to an existing power plant.

Town of Beloit distribution: \$760,000.

Rock County distribution for the plant: \$1,160,000.

University of Wisconsin Cogeneration Plant

Scope: Includes distributions for the 150 Mw plant and incentive aid for being a cogeneration facility.

City of Madison distribution: \$350,000.

Dane County distribution for the plant: \$250,000.

Seven Mile Creek Landfill Gas-to-Energy Plant

Scope: Includes distributions for the three Mw plant and incentive aid for using an alternative energy resource.

City of Eau Claire distribution: \$7,000.

Eau Claire County distribution for the plant: \$5,000.

Data on utility shared revenue distributions reported in this part of the Memo was obtained from the Legislative Fiscal Bureau.

Mitigation Payments

An electric public utility is, in general, prohibited under current law from recovering in its rates any of the following:

- The cost of mitigation payments paid by the utility.
- The cost of mitigation payments paid by the owner or operator of an electric generating facility that the owner or operator recovers from a utility by selling electricity to the utility, leasing the facility to the utility, or through any agreement between the owner or operator and the utility.

[s. 196.20 (7), Stats.]

A “mitigation payment,” as approved by the PSC, is an unrestricted or recurring monetary payment to a local unit of government in which an electric generating facility is located to mitigate the impact of the facility on the local unit of government. Mitigation payments do not include payments made or in-kind contributions for restricted purposes to directly address health or safety impacts of the facility on the local unit of government.

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