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HOUSE BILL 2812

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State of Washington

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By Representatives Bray, Caver, Romero, Reams and Ballard; by request of Department of General Administration

Read first time 01/24/94. Referred to Committee on Energy & Utilities.

1 AN ACT Relating to energy conservation in design of public  
2 facilities; and amending RCW 39.35.030, 39.35.040, and 39.35.050.

3 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

4 **Sec. 1.** RCW 39.35.030 and 1991 c 201 s 14 are each amended to read  
5 as follows:

6 For the purposes of this chapter the following words and phrases  
7 shall have the following meanings unless the context clearly requires  
8 otherwise:

9 (1) "Public agency" means every state office, officer, board,  
10 commission, committee, bureau, department, and all political  
11 subdivisions of the state.

12 (2) "Office" means the Washington state energy office.

13 (3) "Major facility" means any publicly owned or leased building  
14 having twenty-five thousand square feet or more of usable floor space.

15 (4) "Initial cost" means the moneys required for the capital  
16 construction or renovation of a major facility.

17 (5) "Renovation" means additions, alterations, or repairs within  
18 any twelve-month period which exceed fifty percent of the value of a  
19 major facility and which will affect any energy system.

1 (6) "Economic life" means the projected or anticipated useful life  
2 of a major facility as expressed by a term of years.

3 (7) "Life-cycle cost" means the initial cost and cost of operation  
4 of a major facility over its economic life. This shall be calculated  
5 as the initial cost plus the operation, maintenance, and energy costs  
6 over its economic life, reflecting anticipated increases in these costs  
7 discounted to present value at the current rate for borrowing public  
8 funds, as determined by the office of financial management. The energy  
9 cost projections used shall be those provided by the state energy  
10 office. The office shall update these projections at least every two  
11 years.

12 (8) "Life-cycle cost analysis" includes, but is not limited to, the  
13 following elements:

14 (a) The coordination and positioning of a major facility on its  
15 physical site;

16 (b) The amount and type of fenestration employed in a major  
17 facility;

18 (c) The amount of insulation incorporated into the design of a  
19 major facility;

20 (d) The variable occupancy and operating conditions of a major  
21 facility; and

22 (e) An energy-consumption analysis of a major facility.

23 (9) "Energy systems" means all utilities, including, but not  
24 limited to, heating, air-conditioning, ventilating, lighting, and the  
25 supplying of domestic hot water.

26 (10) "Energy-consumption analysis" means the evaluation of all  
27 energy systems and components by demand and type of energy including  
28 the internal energy load imposed on a major facility by its occupants,  
29 equipment, and components, and the external energy load imposed on a  
30 major facility by the climatic conditions of its location. An energy-  
31 consumption analysis of the operation of energy systems of a major  
32 facility shall include, but not be limited to, the following elements:

33 (a) The comparison of three or more system alternatives, at least  
34 one of which shall include renewable energy systems;

35 (b) The simulation of each system over the entire range of  
36 operation of such facility for a year's operating period; and

37 (c) The evaluation of the energy consumption of component equipment  
38 in each system considering the operation of such components at other  
39 than full or rated outputs.

1 The energy-consumption analysis shall be prepared by a professional  
2 engineer or licensed architect who may use computers or such other  
3 methods as are capable of producing predictable results.

4 (11) "Renewable energy systems" means methods of facility design  
5 and construction and types of equipment for the utilization of  
6 renewable energy sources including, but not limited to, active or  
7 passive solar space heating or cooling, domestic solar water heating,  
8 windmills, waste heat, biomass and/or refuse-derived fuels,  
9 photovoltaic devices, and geothermal energy.

10 (12) "Cogeneration" means the sequential generation of two or more  
11 forms of energy from a common fuel or energy source. Where these forms  
12 are electricity and thermal energy, then the operating and efficiency  
13 standards established by 18 C.F.R. Sec. 292.205 and the definitions  
14 established by 18 C.F.R. 292.202 (c) through (m) as of July 28, 1991,  
15 shall apply.

16 (13) "Selected buildings" means educational, office, residential  
17 care, and correctional facilities that are designed to comply with the  
18 design standards analyzed and recommended by the office.

19 (14) "Design standards" means the heating, air-conditioning,  
20 ventilating, and renewable resource systems identified, analyzed, and  
21 recommended by the office as providing an efficient energy system or  
22 systems based on the economic life of the selected buildings.

23 **Sec. 2.** RCW 39.35.040 and 1982 c 159 s 4 are each amended to read  
24 as follows:

25 ~~((On and after September 8, 1975))~~ Whenever a public agency  
26 determines that any major facility is to be constructed or renovated,  
27 such agency shall cause to be included in the design phase of such  
28 construction or renovation a provision that requires a life-cycle cost  
29 analysis conforming with the guidelines developed in RCW 39.35.050 to  
30 be prepared for such facility. Such analysis shall be approved by the  
31 agency prior to the commencement of actual construction or renovation.  
32 A public agency may accept the facility design if the agency is  
33 satisfied that the life-cycle cost analysis provides for an efficient  
34 energy system or systems based on the economic life of the major  
35 facility.

36 Nothing in this section prohibits the construction or renovation of  
37 major facilities which utilize renewable energy systems.

1       **Sec. 3.** RCW 39.35.050 and 1991 c 201 s 15 are each amended to read  
2 as follows:

3       The office, in consultation with affected public agencies, shall  
4 develop and issue guidelines for administering this chapter. The  
5 purpose of the guidelines is to define a procedure and method for  
6 performance of life-cycle cost analysis to promote the selection of  
7 low-life-cycle cost alternatives. At a minimum, the guidelines must  
8 contain provisions that:

9       (1) Address energy considerations during the planning phase of the  
10 project;

11       (2) Identify energy components and system alternatives including  
12 renewable energy systems and cogeneration applications prior to  
13 commencing the energy consumption analysis;

14       (3) Identify simplified methods to assure the lowest life-cycle  
15 cost alternatives for selected buildings with between twenty-five  
16 thousand and one hundred thousand square feet of usable floor area;

17       (4) Establish times during the design process for preparation,  
18 review, and approval or disapproval of the life-cycle cost analysis;

19       (~~(4)~~) (5) Specify the assumptions to be used for escalation and  
20 inflation rates, equipment service lives, economic building lives, and  
21 maintenance costs;

22       (~~(5)~~) (6) Determine life-cycle cost analysis format and submittal  
23 requirements to meet the provisions of chapter 201, Laws of 1991;

24       (~~(6)~~) (7) Provide for review and approval of life-cycle cost  
25 analysis.

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