

Appendix C – Historical Water Use Legislation and Initiatives

Table A1. Timeline of Key and Influential Initiatives Paving the Way for Federal Water Efficiency Standards.

Year	Initiative/Legislation	Purpose/Action	Reporting Standards
1972	Clean Water Act (CWA)	Set wastewater standards for industry to reduce pollutants discharged into surface waters	Indirectly contributed to establishing federal water efficiency standards and the Energy Policy and Conservation Act of 1975 by reducing water consumption at the source to alleviate pressure on public water systems, community water systems, and wastewater and stormwater infrastructure
1974	California Energy Commission (CEC) ¹	The first efficiency standards enacted in the United States. The CEC was tasked with developing and maintaining energy efficiency standards for appliances and new buildings	Increases energy efficiency for new residential and non-residential buildings by developing standards that are cost-effective. Standards must have manuals to support them and be periodically updated While water efficiency standards were not included, the CEC paved the way for the federal Energy Policy and Conservation Act of 1975
1975	Energy Policy and Conservation Act (EPCA) ²	To conserve energy and increase energy efficiency through conservation programs and regulation of certain energy uses of major appliances and other consumer products	Requires energy efficiency targets, labelling requirements, and testing procedures for consumer products including dishwashers and clothes washers The 1979 amendments directed the DOE to establish additional energy conservation standards for

¹ California's 2019 Building Energy Efficiency Standards compliance manual: https://www.energy.ca.gov/sites/default/files/2021-03/2019_Chapter%20%20Introduction_ADA.pdf

² Energy Policy and Conservation Act: <https://www.govinfo.gov/content/pkg/STATUTE-89/pdf/STATUTE-89-Pg871.pdf>

			consumer products, further paving the way for appliance water efficiency standards
1987 to 1988	National Appliance Energy Conservation Act (NAECA) ³	Amended the EPCA 1975 and regulated energy consumption of specific consumer appliances	Establishes minimum energy efficiency standards for common household appliances, including dishwashers and clothes washers for the first time. Water efficiency standards are not yet included
2001	Voluntary Industry Water Program ⁴	Voluntary Water Factor Reporting for appliance models by members of the Association of Home Appliance Manufacturers (AHAM)	Beginning in 2007 AHAM members will agree to report water factor for all clothes washer models

³ National Appliance Energy Conservation Act of 1987: <https://www.govinfo.gov/content/pkg/STATUTE-101/pdf/STATUTE-101-Pg103.pdf>

⁴ Industry Sponsored Water Program: <https://www.federalregister.gov/documents/2001/01/12/01-611/energy-conservation-program-for-consumer-products-clothes-washer-energy-conservation-standards>

Table A2. Timeline of Key Federal Water Efficiency Requirements and Standards from 1992 to 2025.

Year	Initiative/Legislation	Purpose/Action	Specifications/Standards
1992	Energy Policy Act (EPAct) EPA launches ENERGY STAR program ⁵	Authorized federal agencies to participate in utility incentive energy and water conservation programs Established the first national standards for water efficiency in some newly manufactured consumer products	Maximum flow rates and flush volumes: ⁶ Commercial and residential toilets: 1.6 gpf Urinals: 1.0 gpf Showerheads and faucets: 2.5 gpm at 80 PS
1998	National Appliance Energy Conservation Act ⁷	Adopted new water conservation standards for maximum flow rates for all faucets based on performance standards established by the American Society of Mechanical Engineers (ASME) in 112.18.1M-1994	All faucets not to exceed a maximum flow rate of 2.2 gpm at 60 PSI ⁸
2005	Energy Policy Act of 2005 ⁹	Expanded energy and water efficiency standards in public housing and	Requires installation of fixtures in public housing conforming to the American Society of Mechanical Engineers/American National Standards Institute standards

⁵ Energy Policy Act 1992: <https://www.congress.gov/bills/102nd-congress/house-bill/776>

⁶ Manufactured after January 1, 1994

⁷ 1998 Amendments to 10 CFR Part 430; March 18, 1998: <https://www.govinfo.gov/content/pkg/FR-1998-03-18/html/98-6997.htm>

⁸ Applied to all faucets manufactured after January 1, 1994.

⁹ Energy Policy Act 2005: <https://www.congress.gov/109/plaws/publ58/PLAW-109publ58.pdf>; <https://www.ferc.gov/sites/default/files/2020-04/epact-fact-sheet.pdf>; https://www1.eere.energy.gov/femp/pdfs/epact_2005.pdf

		included some water efficiency specifications for some commercial appliances	A112.19.2–1998 and A112.18.1–2000 Commercial prerinse spray valves not to exceed a flow rate of 1.6 gpm¹⁰ Commercial clothes washers not to exceed a Water Factor of 9.5¹¹
2007	Energy Independence and Security Act (EISA) – Water Use Reporting Requirements for Federal Agencies ¹²	Amended the EPCA to include management of energy and water efficiency in Federal buildings.	Mandates federal agencies to conduct water use assessments of federal buildings every four years to identify and implement water-savings measures. Requires federal agencies to report progress using the Federal Energy Management Program’s EISA 432 Compliance Tracking System, including benchmarking requirements. While the focus was on energy efficiency, this required covered federal buildings to install water meters, benchmark water consumption using tools like the EPA’s ENERGY STAR Portfolio Manager, and report progress of conservation efforts.
2007	Energy Independence and Security Act (EISA) - Water Efficiency Standards for Appliances ¹³	Amended the EPCA and established for the first time water efficiency standards for residential dishwashers and clothes washers. ¹⁴	Standard dishwashers: < 355 kWh/year and 6.5 GPC Compact dishwashers: < 260 kWh/year; 4.5 GPC Clothes washers: Water Factor not exceeding 9.5

¹⁰ Applied to commercial pre-rinse valves manufactured on or after January 1, 2006.

¹¹ Applied to commercial clothes washers manufactured on or after January 1, 2007.

¹² Section 432 of the Energy Independence and Security Act of 2007 (EISA) (42 USC. 8253(f)(4) and (5)): <https://www.govinfo.gov/content/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf>

¹³ Section 432 of the Energy Independence and Security Act of 2007 (EISA) (42 USC. 8253(f)(4) and (5)): <https://www.govinfo.gov/content/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf>

¹⁴ Amended the EPCA for residential dishwashers manufactured on or after January 1, 2010 and clothes washers manufactured on or after January 1, 2011.

2012	Obama Administrative Standards ^{15,16}	Amended the EPCA to further increase energy and water efficiency standards for residential clothes washers and dishwashers Changes included use of an Integrated Water Factor (IWF) ¹⁷ for measuring water use efficiency	US Department of Energy Standards Residential Standards by Manufacture Date ¹⁸ <u>Dishwasher May 30, 2013 (GPC)</u> Standard size 5.0 Compact size 3.5 <u>Clothes Washers 2015 (IWF) 2018 (IWF)</u> Top-loading, compact 14.4 12.0 Top-loading, standard 8.4 6.5 Front-loading, compact 8.3 8.3 Front-loading, standard 4.7 4.7
2025	Current DOE Standards ¹⁹	Amended the EPCA to further increase energy and water efficiency standards for residential clothes washers and dishwashers Changes included use of a Water Efficiency Ratio	US Department of Energy Standards Residential Standards by Manufacture Date <u>Dishwasher May 30, 2013 (GPC) April 23, 2027 (GPC)</u> Standard size 5.0 3.3 Compact size 3.5 3.1 <u>Clothes Washer January 1, 2018 (IWF) March 1, 2028 (WER)</u> Top-loading, compact 12.0 0.29

¹⁵ 10 CFR Parts 429 and 430, May 31, 2012 for Residential Clothes Washers <https://www.govinfo.gov/content/pkg/FR-2012-05-31/pdf/2012-12320.pdf>

¹⁶ 2012 Energy Conservation Program for Residential Dishwashers: <https://www.federalregister.gov/documents/2012/05/30/2012-12340/energy-conservation-program-energy-conservation-standards-for-residential-dishwashers>

¹⁷ Water Factor or Integrated Water Factor (WF or IWF): the number of gallons per cycle per cubic foot a washer uses. Calculated as the sum of the total weighted per-cycled water consumption. The lower the water factor, the more efficient the appliance is (2012-05-31 Energy Conservation Program: Energy Conservation Standards for Residential Clothes Washers; Direct final rule, <http://www.regulations.gov/#!documentDetail;D=EERE-2008-BT-STD-0019-0041>).

¹⁸ Manufacture or import date.

¹⁹ 10 CFR Part 430 Subpart C up to date as of 2/18/2025. Title 10 was last amended on 2/05/2025 (<https://www.ecfr.gov/current/title-10/chapter-II/subchapter-D/part-430/subpart-C>).

		(WER) ²⁰ for measuring water use efficiency	Top-loading, standard	6.5	0.57
			Front-loading, compact	8.3	0.71
			Front-loading, standard	4.7	0.77
2025	DOE Proposals ²¹	Final rules amending test procedures for clothes washers have been delayed under new administration Executive Orders. Effective dates of the final rules are delayed until March 21, 2025			

²⁰ Water Efficiency Ratio (WER): Weighted-average load size in lbs divided by the total weight per-cycle water consumption for all wash cycles in gallons.

²¹ Energy Conservation Program: Test Procedures for Residential and Commercial Clothes Washers and Consumer Clothes Dryers
<https://www.federalregister.gov/documents/2025/02/05/2025-02237/energy-conservation-program-test-procedures-for-residential-and-commercial-clothes-washers-and>