

1 **WATER REPORTING AMENDMENTS**

2 2022 GENERAL SESSION

3 STATE OF UTAH

4 **Chief Sponsor: Joel Ferry**

5 Senate Sponsor: Scott D. Sandall

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7 **LONG TITLE**

8 **General Description:**

9 This bill requires a study and makes changes regarding the use of electrolysis to create  
10 hydrogen from water.

11 **Highlighted Provisions:**

12 This bill:

13 ▶ adds to the powers of the state engineer the power to conduct studies regarding use  
14 of water;

15 ▶ requires the state engineer to conduct a study regarding:

16 • the current effect on the water cycle of the use of water to cool power plants;  
17 • the potential effect on the water cycle of the use of water to create hydrogen  
18 through coal gasification or steam methane reforming; and

19 • the potential effect on the water cycle of the use of electrolysis with water to  
20 create hydrogen to power a power plant;

21 ▶ establishes a reporting requirement for the results of the study; and

22 ▶ requires the state engineer to administer the river distribution accounting report.

23 **Money Appropriated in this Bill:**

24 This bill appropriates in fiscal year 2023:

25 ▶ to the Division of Water Rights -- Water Rights Administration, as a one-time  
26 appropriation:

27 • from the General Fund, One-time, \$230,000.

28 ▶ to the Division of Water Rights -- Water Rights Administration, as an ongoing  
29 appropriation:

30 • from the General Fund -- \$150,000.

31 **Other Special Clauses:**

32 None

33 **Utah Code Sections Affected:**

34 AMENDS:

35 **73-2-1**, as last amended by Laws of Utah 2020, Chapters 60 and 352

36 ENACTS:

37 **73-2-1.7**, Utah Code Annotated 1953

38 **73-5-17**, Utah Code Annotated 1953



40 *Be it enacted by the Legislature of the state of Utah:*

41 Section 1. Section **73-2-1** is amended to read:

42 **73-2-1. State engineer -- Term -- Powers and duties -- Qualification for duties.**

43 (1) There shall be a state engineer.

44 (2) The state engineer shall:

45 (a) be appointed by the governor with the advice and consent of the Senate;

46 (b) hold office for the term of four years and until a successor is appointed; and

47 (c) have five years experience as a practical engineer or the theoretical knowledge,  
48 practical experience, and skill necessary for the position.

49 (3) (a) The state engineer shall be responsible for the general administrative  
50 supervision of the waters of the state and the measurement, appropriation, apportionment, and  
51 distribution of those waters.

52 (b) The state engineer may secure the equitable apportionment and distribution of the  
53 water according to the respective rights of appropriators.

54 (4) The state engineer shall make rules, in accordance with Title 63G, Chapter 3, Utah  
55 Administrative Rulemaking Act, consistent with the purposes and provisions of this title,

56 regarding:

57 (a) reports of water right conveyances;

- 58 (b) the construction of water wells and the licensing of water well drillers;
- 59 (c) dam construction and safety;
- 60 (d) the alteration of natural streams;
- 61 (e) geothermal resource conservation;
- 62 (f) enforcement orders and the imposition of fines and penalties;
- 63 (g) the duty of water; and
- 64 (h) standards for written plans of a public water supplier that may be presented as
- 65 evidence of reasonable future water requirements under Subsection 73-1-4(2)(f).

66 (5) The state engineer may make rules, in accordance with Title 63G, Chapter 3, Utah  
67 Administrative Rulemaking Act, consistent with the purposes and provisions of this title,  
68 governing:

- 69 (a) water distribution systems and water commissioners;
- 70 (b) water measurement and reporting;
- 71 (c) groundwater recharge and recovery;
- 72 (d) wastewater reuse;
- 73 (e) the form, content, and processing procedure for a claim under Section 73-5-13 to
- 74 surface or underground water that is not represented by a certificate of appropriation;
- 75 (f) the form and content of a proof submitted to the state engineer under Section
- 76 73-3-16;
- 77 (g) the determination of water rights; or
- 78 (h) the form and content of applications and related documents, maps, and reports.
- 79 (6) The state engineer may bring suit in courts of competent jurisdiction to:
- 80 (a) enjoin the unlawful appropriation, diversion, and use of surface and underground
- 81 water without first seeking redress through the administrative process;
- 82 (b) prevent theft, waste, loss, or pollution of surface and underground waters;
- 83 (c) enable the state engineer to carry out the duties of the state engineer's office; and
- 84 (d) enforce administrative orders and collect fines and penalties.
- 85 (7) The state engineer may:

86 (a) upon request from the board of trustees of an irrigation district under Title 17B,  
87 Chapter 2a, Part 5, Irrigation District Act, or another local district under Title 17B, Limited  
88 Purpose Local Government Entities - Local Districts, or a special service district under Title  
89 17D, Chapter 1, Special Service District Act, that operates an irrigation water system, cause a  
90 water survey to be made of the lands proposed to be annexed to the district in order to  
91 determine and allot the maximum amount of water that could be beneficially used on the land,  
92 with a separate survey and allotment being made for each 40-acre or smaller tract in separate  
93 ownership; and

94 (b) upon completion of the survey and allotment under Subsection (7)(a), file with the  
95 district board a return of the survey and report of the allotment.

96 (8) (a) The state engineer may establish water distribution systems and define the water  
97 distribution systems' boundaries.

98 (b) The water distribution systems shall be formed in a manner that:

99 (i) secures the best protection to the water claimants; and

100 (ii) is the most economical for the state to supervise.

101 (9) The state engineer may conduct studies of current and novel uses of water in the  
102 state.

103 Section 2. Section **73-2-1.7** is enacted to read:

104 **73-2-1.7. Water for power study.**

105 (1) As used in this section:

106 (a) "Coal gasification" means the process of using a gasifier to convert coal into  
107 synthesis gas which can then be converted to hydrogen.

108 (b) "Electrolysis" means the process of using electricity to split water into hydrogen  
109 and oxygen.

110 (c) "Steam methane reforming" means the process of chemical synthesis to use a  
111 catalyst to produce hydrogen from methane derived from natural gas.

112 (d) "Water cycle" means the biogeochemical cycle that describes the continuous  
113 movement of water on, above, and below the surface of the earth.

114 (2) The state engineer shall commission a study to determine the quantitative impacts  
115 to the state's water cycle from:

- 116 (a) electrolysis;
- 117 (b) the generation of electricity by burning as fuel hydrogen resulting from electrolysis;

118 and

- 119 (c) the generation of electricity by burning as fuel a blend of natural gas and hydrogen.

120 (3) The study shall compare the quantitative impacts to the water cycle to generating  
121 electricity by:

- 122 (a) burning coal;
- 123 (b) burning natural gas;
- 124 (c) solar energy;
- 125 (d) wind energy;
- 126 (e) burning a combination of hydrogen and natural gas; and
- 127 (f) burning hydrogen produced from:
  - 128 (i) electrolysis;
  - 129 (ii) coal gasification; and
  - 130 (iii) steam methane reforming.

131 (4) The impacts quantified in Subsections (3)(e) and (f) shall include the quantitative  
132 impacts to the water cycle of:

- 133 (a) burning the hydrogen; and
- 134 (b) producing the hydrogen from fuel through:
  - 135 (i) electrolysis;
  - 136 (ii) coal gasification; and
  - 137 (iii) steam methane reforming.

138 (5) The study described in Subsection (3) shall describe factors that influence the  
139 findings described in Subsection (3), including efficiency of the power.

140 (6) The state engineer shall report the findings of the study described in Subsection (3)  
141 to the Public Utilities, Energy, and Technology Interim Committee and to the Legislative Water

142 Development Commission on or before November 1, 2022.

143 Section 3. Section **73-5-17** is enacted to read:

144 **73-5-17. River distribution accounting report.**

145 (1) As used in this section:

146 (a) "Natural flow" means the computed amount of water available within a defined  
147 portion of a river system.

148 (b) "River system" means a portion of a natural stream and its tributaries where  
149 regulation and accounting are required.

150 (2) The state engineer may conduct a review of distribution and accounting procedures  
151 on a river system in the state.

152 (3) After conducting the review described in Subsection (2), the state engineer shall  
153 provide a report identifying:

154 (a) actively administered:

155 (i) water rights;

156 (ii) diversions; and

157 (iii) reservoirs;

158 (b) accounting practices, including:

159 (i) computation of natural flow;

160 (ii) apportionment of natural flow to individual water rights;

161 (iii) storage delivery and loss of storage;

162 (iv) accounting for imports and exports; and

163 (v) system losses including:

164 (A) conveyance losses; and

165 (B) reservoir losses;

166 (c) recommendations for:

167 (i) additional measurement and automation; and

168 (ii) refinement of distribution or accounting practices in accordance with:

169 (A) existing water rights;

170 (B) the prior appropriation doctrine; and  
 171 (C) relevant court decrees; and  
 172 (d) the data and computations relied upon to provide the information described in  
 173 Subsections (3)(a) through (c).

174 (4) The state engineer shall make the report described in Subsection (3) available to the  
 175 public on the Division of Water Rights website annually at least one week prior to the annual  
 176 distribution system meeting.

177 **Section 4. Appropriation.**

178 The following sums of money are appropriated for the fiscal year beginning July 1,  
 179 2022, and ending June 30, 2023. These are additions to amounts previously appropriated for  
 180 fiscal year 2023. Under the terms and conditions of Title 63J, Chapter 1, Budgetary Procedures  
 181 Act, the Legislature appropriates the following sums of money from the funds or accounts  
 182 indicated for the use and support of the government of the state of Utah.

183 ITEM 1

184 To Division of Water Rights - Water Rights Administration

185 From General Fund, One-time \$230,000

186 Schedule of Programs:

187 Water for Power Study \$150,000

188 River Distribution Accounting Report \$80,000

189 From General Fund \$150,000

190 Schedule of Programs:

191 River Distribution Accounting Report \$150,000