

1 State of Arkansas As Engrossed: H1/26/23 H2/27/23

2 94th General Assembly

# A Bill

3 Regular Session, 2023

HOUSE BILL 1142

4

5 By: Representatives Ladyman, *Beaty Jr.*, *M. Berry*, *L. Fite*, *Gramlich*, *D. Hodges*, *Hollowell*, *Long*,

6 *Maddox*, *McAlindon*, *McGrew*, *Pilkington*, *R. Scott Richardson*, *Richmond*, *Rye*

7 By: Senator *C. Penzo*

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## For An Act To Be Entitled

10 AN ACT TO CREATE THE ARKANSAS NUCLEAR RECYCLING  
11 PROGRAM; TO DEVELOP A FISCAL MODEL FOR COMMERCIAL  
12 APPLICATION; TO DEVELOP AN INTERIM AND LONG-TERM  
13 STORAGE PLAN FOR RESIDUAL MATERIALS; TO DEVELOP A  
14 FISCAL MODEL FOR CURRENT AND FUTURE MARKET DEMAND; TO  
15 DEVELOP ENGINEERING DOCUMENTS FOR THE RECYCLING  
16 PROCESS; TO PERFORM SITE ANALYSIS FOR PROSPECTIVE  
17 RECYCLING FACILITY LOCATIONS AND DEVELOP A  
18 CONSTRUCTION COST AND SCHEDULE REPORT; TO ESTABLISH  
19 ARKANSAS AS THE ONLY STATE TO DECLARE ITSELF  
20 INTERESTED IN PURSUING A FINAL SOLUTION FOR SPENT  
21 NUCLEAR FUEL THROUGH RECYCLING; AND FOR OTHER  
22 PURPOSES.

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## Subtitle

26

TO CREATE THE ARKANSAS NUCLEAR RECYCLING  
PROGRAM.

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30 BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF ARKANSAS:

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32 SECTION 1. Arkansas Code Title 8, Chapter 9, is amended to add an  
33 additional subchapter to read as follows:

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Subchapter 8 – Arkansas Nuclear Recycling Program

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8-9-801. Title.



1 This subchapter shall be known and may be cited as the "Arkansas  
2 Nuclear Recycling Program".

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4 8-9-802. Legislative findings.

5 The General Assembly finds that:

6 (1) In August 2016, the Argonne National Laboratory hosted a  
7 delegation from Arkansas, including staff from the Arkansas Economic  
8 Development Commission;

9 (2) In January 2017, the Arkansas Alternative Energy Commission  
10 issued a recommendation to the Governor to support the University of Arkansas  
11 and the United States Department of Energy national laboratories to prepare  
12 and make recommendations and to offer options on using existing technology to  
13 convert spent nuclear fuel rods into new nuclear fuel;

14 (3) In August 2017, the Joint Committee on Energy held hearings  
15 on advanced nuclear technology to reprocess spent nuclear fuel rods and  
16 unanimously approved an interim study resolution on the matter; and

17 (4) In November 2018, the Joint Committee on Energy held a  
18 meeting at Arkansas Nuclear One and further discussed the issues under  
19 subdivisions (1)-(3) of this section, including without limitation that the:

20 (A) University of Arkansas system, in conjunction with  
21 other institutions of higher education, can and is willing to provide a  
22 detailed analysis examining the benefits of "New Nuclear" compared to the  
23 risks of continued storage of spent fuel at Arkansas Nuclear One;

24 (B) Fast reactor technology and electrochemical spent fuel  
25 reprocessing are ready for commercial development; and

26 (C) The Department of Health and the Department of Energy  
27 and Environment support the application for federal funding for the  
28 establishment of an education, risk analysis, and optimization design  
29 program;

30 (5) Acts 2021, No. 1092, required the House Committee on Public  
31 Health, Welfare, and Labor and the Senate Committee on Public Health,  
32 Welfare, and Labor to jointly conduct a study on the commercial application  
33 of existing technology to reclaim and repurpose spent nuclear fuel rods; and

34 (6) It is appropriate to build upon the study conducted under  
35 Acts 2021, No. 1092, and to study the technical and economic feasibility and  
36 commercial viability of the interim storage and recycling of spent nuclear

1 fuel at locations in Arkansas.

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3 8-9-803. Purpose.

4 The purpose of this subchapter is to authorize the Department of Energy  
5 and Environment to:

6 (1) Protect the public health and the environmental quality of  
7 the state by identifying the applicable federal standards for:

8 (A) Shipping spent nuclear fuel into the state and  
9 returning the shipping containers back to the point of origin after the  
10 extraction of the spent nuclear fuel for reuse and reloading;

11 (B) Recycling spent nuclear fuel;

12 (C) Interim storage of spent nuclear fuel before the spent  
13 nuclear fuel is to be recycled;

14 (D) Interim storage of recycled nuclear fuel; and

15 (E) Interim storage of waste by-products from the spent  
16 nuclear fuel recycling process;

17 (2) Secure federal funding to contract with one (1) or more  
18 scientific and engineering organizations to study the technical and economic  
19 feasibility and commercial viability of the interim storage and recycling of  
20 spent nuclear fuel at locations in Arkansas; and

21 (3) Based on the results of the study under subdivision (2) of  
22 this section, determine the appropriate time frames and conditions that must  
23 be met before it is technically and economically feasible, commercially  
24 viable, and appropriate to declare the state open to interim storage of spent  
25 nuclear fuel for the purpose of securing federal funding for the interim  
26 storage and recycling of spent nuclear fuel at locations in Arkansas.

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28 8-9-804. Creation of program – Authorization to enter into charter.

29 The Division of Environmental Quality shall establish the Arkansas  
30 Nuclear Recycling Program to:

31 (1) Secure a federal charter from the United States Government  
32 and receive federal funding for the program as outlined in the Acts 2021, No.  
33 1092, report submitted to the House Committee on Public Health, Welfare, and  
34 Labor and the Senate Committee on Public Health, Welfare, and Labor; and

35 (2) Perform research to establish and identify the following for  
36 technical and economic feasibility and commercial viability:

- 1                   (A) Recycling spent nuclear fuel;  
2                   (B) The market value of recycled spent nuclear fuel;  
3                   (C) Through design documentation, the cost and schedule to  
4 build a nuclear recycling facility;  
5                   (D) Potential sites within the state that meet specific  
6 seismic and accessibility criteria meeting federal requirements to establish  
7 a port or rail yard and transfer area; and  
8                   (E) An analysis on acceptable methods of:  
9                         (i) Shipping the spent nuclear fuel to the selected  
10 sites under study;  
11                         (ii) Returning the shipping containers back to the  
12 sender for reuse and reloading;  
13                         (iii) Interim storage of the spent nuclear fuel;  
14                         (iv) Interim storage of recycled spent nuclear fuel;  
15                         (v) Storage of short-term waste by-products; and  
16                         (vi) Disposal of long-term waste by-products.

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18         8-9-805. Reporting – Hearings.

19         (a) Upon completion of the analysis of the technical and economic  
20 feasibility and commercial viability requirements in § 8-9-804, the Division  
21 of Environmental Quality shall present a report on the results of the  
22 analysis to the Legislative Council.

23         (b) The Legislative Council shall hold hearings on the technical and  
24 economic feasibility and commercial viability of the interim storage and  
25 recycling of spent nuclear fuel and include the following committees, the:

26                 (1) House Committee on Insurance and Commerce;

27                 (2) Senate Committee on Insurance and Commerce;

28                 (3) House Committee on Public Health, Welfare, and Labor;

29                 (4) Senate Committee on Public Health, Welfare, and Labor; and

30                 (5) Joint Energy Committee.

31         (c) The Legislative Council shall develop a recommendation based upon  
32 the hearings and present the recommendation to the Governor regarding the  
33 technical and economic feasibility and commercial viability of the interim  
34 storage and recycling of spent nuclear fuel at locations in Arkansas.

35         (d) Upon a finding by the Legislative Council and approval by the  
36 Governor that it is technically and economically feasible, commercially

1 viable, and appropriate to declare the state open to the interim storage and  
2 recycling of spent nuclear fuel for the purpose of securing federal funds for  
3 the interim storage and recycling of spent nuclear fuel, public outreach and  
4 education under § 8-9-806 may begin.

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6 8-9-806. Public outreach and education.

7 The University of Arkansas, with direction and assistance from the  
8 federal charter under § 8-9-804, shall:

9 (1) Develop and implement a public outreach and education  
10 program to the sites selected within Arkansas to gather public opinion on the  
11 construction and operation of a spent nuclear fuel interim storage and  
12 recycling facility;

13 (2) Hold public meetings to interact with citizens to determine  
14 their opposition to and support of a spent nuclear fuel interim storage and  
15 recycling facility in their location;

16 (3) Measure the level of opposition and support of those  
17 citizens through surveys, polls, and other recognized means;

18 (4) Provide a report to the Legislative Council on the outcome  
19 of the public meetings for final approval and assistance in site selection;  
20 and

21 (5) Contingent upon a demonstration of public support as a  
22 result of the public outreach and education effort, endow a chair within the  
23 university to develop a nuclear science and engineering program to provide  
24 future generations of nuclear engineers to capitalize on future opportunities  
25 available at the spent nuclear interim storage and recycling facility  
26 initially funded by federal funds.

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28 8-9-807. Construction and operation.

29 The entities under the federal charter under § 8-9-804 shall be  
30 responsible for the construction and operation of the spent nuclear fuel  
31 interim storage and recycling facility and through the use of federal funds  
32 shall:

33 (1) Receive the design documentation completed under § 8-9-804;

34 (2) Develop construction documents, update cost data, and  
35 establish a schedule for construction to be completed with a national  
36 laboratory;

1 (3) Contract with a design firm to provide design and  
2 construction documents for the spent nuclear fuel interim storage and  
3 recycling facility containment building;

4 (4) Contract with a contractor to build the spent nuclear fuel  
5 interim storage and recycling facility as designed and provide start-up  
6 assistance with the spent nuclear fuel interim storage and recycling  
7 facilities; and

8 (5) Contract with a national laboratory to provide installation  
9 management of the pyrotechnic lines inside the spent nuclear fuel interim  
10 storage and recycling facility containment building and to provide start-up  
11 management and training for permanent operators and maintenance.

12 8-9-808. Applicability.

13 This subchapter applies only to the interim storage and recycling of  
14 spent nuclear fuel from commercial nuclear reactors, university nuclear  
15 reactors, and other research or government-operated nuclear reactors under  
16 this subchapter.

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18 /s/Ladyman

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21 **APPROVED: 3/13/23**  
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