

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

**IN THE MATTER OF THE VERIFIED)
APPLICATION OF TRI-STATE GENERATION AND)
TRANSMISSION ASSOCIATION, INC. FOR) PROCEEDING NO. 20A-____
APPROVAL OF THE RETIREMENT OF THE)
NUCLA STATION, AND REQUEST FOR WAIVER)
OF RULE 3103(d))**

**DIRECT TESTIMONY AND ATTACHMENTS OF
TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION, INC. WITNESS
BARRY W. INGOLD**

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
I. INTRODUCTION AND QUALIFICATIONS.....	2
II. PURPOSE OF TESTIMONY	3
III. GENERAL DESCRIPTION OF NUCLA STATION: HISTORY, CPCN, AND OPERATIONS	4
IV. RETIREMENT OF NUCLA STATION.....	7
V. WORKFORCE TRANSITION AND COMMUNITY SUPPORT	10
VI. APPROVAL OF RETIREMENT	11

1 I. **INTRODUCTION AND QUALIFICATIONS**

2 **Q: PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A: My name is Barry W. Ingold. My business address is 1100 West 116th Avenue,
4 Westminster, CO 80234.

5 **Q: BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

6 A: I am employed by Tri-State Generation and Transmission Association, Inc. ("Tri-
7 State") as Senior Vice President, Generation.

8 **Q: ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS DOCKET?**

9 A: I am testifying on behalf of Tri-State.

10 **Q: HAVE YOU PREPARED A STATEMENT OF YOUR EXPERIENCE AND**
11 **QUALIFICATIONS?**

12 A: Yes. A statement of my experience and qualifications is attached to my testimony
13 as **Attachment BWI-1**.

14 **Q: PLEASE DESCRIBE BRIEFLY YOUR BACKGROUND AND EXPERIENCE IN**
15 **THE ELECTRIC UTILITY INDUSTRY.**

16 A: I have 22 years of experience in the electric utility industry. In my present
17 position, I am responsible for managing Tri-State's entire generation fleet. I also
18 manage the fuel and water supply to Tri-State's generation facilities, as well as
19 oversight of the generation capital budget and all construction projects at Tri-
20 State's generation facilities. Prior to joining Tri-State, I was an Application
21 Control Engineer and Project Manager for Honeywell International, Inc., a global
22 provider of control solutions. In addition to my 22 years of industry experience, I
23 served for thirteen years in the submarine force of the United States Navy. I then

1 transitioned to the Navy Reserve where I served for an additional thirteen years
2 during which time I held command of five Navy Reserve Detachments. I attained
3 the rank of Captain prior to retiring from the United States Navy. I hold a
4 bachelor's degree in Marine Engineering and Marine Transportation from the
5 United States Merchant Marine Academy, a Master's degree in Mechanical
6 Engineering from the Naval Postgraduate School, and a Master's Degree in
7 Business Administration from Arizona State University.

8 **II. PURPOSE OF TESTIMONY**

9 **Q: WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

10 A: My testimony provides a general description of the Nucla Station, and discusses
11 the plant's history, CPCN, and operations. I discuss the reason for retiring the
12 Nucla Station, and Tri-State's plans related to workforce transition and support
13 for the affected community. I will also introduce Tri-State's other witnesses
14 whose testimonies support Tri-State's Application.

15 **Q: PLEASE PROVIDE A BRIEF SUMMARY OF THE APPLICATION.**

16 A: Tri-State has ceased operations at the Nucla Station and presently plans to begin
17 decommissioning and dismantling the plant facilities during the first half of 2020.
18 Tri-State requests that the Colorado Public Utilities Commission (the
19 "Commission") approve the retirement of the Nucla Station. Given Tri-State's
20 prior communications and coordination with the local communities, Tri-State also
21 requests that the Commission waive certain notice requirements under the
22 relevant Commission rule.

23 **Q. IS TRI-STATE PRESENTING TESTIMONY FROM OTHER WITNESSES IN**
24 **SUPPORT OF ITS CPCN APPLICATION?**

1 A. Yes. Tri-State is sponsoring the direct testimony of the following witnesses in
2 support of its Application:

- 3 • Robert W. Wolaver. Mr. Wolaver is Tri-State's Senior Manager, Energy
4 Resources. Mr. Wolaver will discuss the Nucla Station's retirement from a
5 resource planning perspective. He will discuss why Tri-State does not need
6 to replace the Nucla Station with another generating facility, how the load
7 previously served by the Nucla Station will continue to be served, why Tri-
8 State's Members and their customers will not be affected by the retirement of
9 the Nucla Station, and how retirement of the Nucla Station affects Tri-State's
10 resource adequacy.
- 11 • Christopher E. Pink. Mr. Pink is Tri-State's Manager, Technical Services/Bulk
12 System Planning. Mr. Pink will discuss how the Nucla Station was
13 interconnected to the Colorado transmission system and the effect of the
14 plant's retirement on transmission system operations and reliability.
- 15 • Terry L. Nelson. Mr. Nelson is Tri-State's Senior Manager Generation
16 Construction. Mr. Nelson will provide additional technical information
17 concerning the Nucla Station, and will describe Tri-State's decommissioning
18 plans.

19 Together, the testimonies of these witnesses provide comprehensive
20 explanations of the proposed Nucla Station retirement.

21 **III. GENERAL DESCRIPTION OF NUCLA STATION: HISTORY, CPCN, AND**
22 **OPERATIONS**

23 **Q: WHERE IS THE NUCLA STATION LOCATED?**

1 A: The Nucla Station is located on the San Miguel River in Montrose County,
2 Colorado, approximately three miles southeast of the Town of Nucla. The plant's
3 address is 30739 DD 30 Road, Nucla, Colorado.

4 **Q: IN GENERAL TERMS, PLEASE DESCRIBE THE FACILITIES THAT**
5 **COMPRISE THE NUCLA STATION.**

6 A: When operational, Nucla Station's net capacity rating was 100 MW. It was the
7 world's first utility-scale power plant to utilize atmospheric circulating fluidized-
8 bed combustion technology. The original plant was commissioned in 1959. It
9 was a 36 MW station and included Units 1, 2, and 3. Nucla Station was
10 repurposed in the 1980s. The three original stoker boilers were retired in 1983
11 and abandoned in place. A new 70 MW circulating fluidized bed boiler was
12 constructed next to the old plant. In 1987, Unit 4 began operation. Extraction
13 steam from Unit 4 is used to power the original Units 1, 2, and 3. A diagram of
14 the general plant facilities is included as **Attachment BWI-2**.

15 **Q: IS TRI-STATE THE ORIGINAL OWNER OF THE NUCLA STATION?**

16 A: No. Colorado-Ute Electric Association was the original owner of the Nucla
17 Station.

18 **Q: HOW DID TRI-STATE BECOME THE OWNER OF THE NUCLA STATION?**

19 A: Tri-State acquired the Nucla Station in 1992 through the Colorado-Ute
20 bankruptcy proceeding.

21 **Q: DID THE COMMISSION GRANT A CERTIFICATE OF PUBLIC CONVENIENCE**
22 **AND NECESSITY FOR THE NUCLA STATION?**

23 A: Yes. It is my understanding that the Commission originally granted Colorado-Ute
24 a conditional CPCN for the Nucla Station in 1983.

1 **Q: WHY WAS THAT A CONDITIONAL CPCN?**

2 A: As I mentioned, the plant was originally constructed in 1959 as an experimental
3 facility testing the feasibility of an atmospheric fluidized-bed combustion
4 technology. As such, it was not originally intended for commercial operation. Tri-
5 State has limited information concerning the conditions originally imposed on
6 Colorado-Ute's CPCN for the Nucla Station.

7 **Q: WAS THE NUCLA STATION CPCN SUBSEQUENTLY TRANSFERRED TO**
8 **TRI-STATE?**

9 A: Yes. In 1992, the Commission authorized the transfer by Colorado-Ute and the
10 acquisition by Tri-State of the Nucla Station. Tri-State was authorized to operate
11 and maintain the plant as a research and development project using atmospheric
12 fluidized bed combustion technology. The Commission also transferred to Tri-
13 State the CPCN originally granted to Colorado-Ute, subject to the following
14 conditions and provisions:

15 (a) Tri-State was authorized to make the necessary modifications to complete
16 the research and development project at the plant for the purpose of concluding
17 the research on the commercial application of an atmospheric fluidized bed
18 combustion technology to the electric power industry;

19 (b) Tri-State was required to contact the Staff of the Commission to establish
20 which accounts within the Rural Electrification Administration Uniform System of
21 Accounts should be used with respect to the project;

22 (c) On or before March 31 of each year, Tri-State was required to advise the
23 Commission in writing as to the progress of the modifications to the Nucla Project
24 and as to the expenditures of funds by it with respect thereto; and

1 (d) After the Nucla Station achieved an availability factor of at least 80% for a
2 90 day period, Tri-State was permitted to file an application with the Commission
3 seeking the removal of these conditions from the CPCN for the operation and
4 maintenance of the Nucla Station.

5 Information concerning the Nucla Station's history and CPCN is contained in the
6 Commission's 1992 decision which is attached to my testimony as **Attachment**
7 **BWI-3**.

8 **Q: PLEASE DESCRIBE GENERALLY TRI-STATE'S OPERATION OF THE**
9 **NUCLA STATION DURING ITS OWNERSHIP OF THE PLANT.**

10 A: After the demonstration project to commission the first utility scale atmospheric
11 circulating fluidized-bed boiler was completed, Nucla Station operated as a
12 baseload coal plant with annual capacity factors of 70-80% through 2015. In
13 2016, the operation of Nucla Station started to dwindle with more seasonal
14 operation as dictated by market conditions.

15 **IV. RETIREMENT OF NUCLA STATION**

16 **Q: WHY HAS TRI-STATE DECIDED TO RETIRE THE NUCLA STATION?**

17 A: Tri-State's decision to retire the Nucla Station was motivated by an agreement
18 with the Colorado Department of Public Health and Environment ("CDPHE"), the
19 U.S. Environmental Protection Agency ("EPA"), WildEarth Guardians, and the
20 National Parks Conservation Association to propose revisions to the Colorado
21 Visibility and Regional Haze State Implementation Plan.

22 **Q: PLEASE EXPLAIN WHAT THE COLORADO VISIBILITY AND REGIONAL**
23 **HAZE STATE IMPLEMENTATION PLAN IS.**

1 A: The Colorado Visibility and Regional Haze State Implementation Plan is
2 Colorado's plan, including state environmental regulatory revisions, to meet the
3 requirements of the EPA's Regional Haze Rule. Finalized in 1999, the federal
4 Regional Haze Rule requires states to adopt and periodically review - and if
5 necessary, revise - plans to address aspects of visibility impairment in mandatory
6 federal Class I areas, which consist of certain National Parks and Wilderness
7 Areas. Twelve mandatory federal Class I areas exist in Colorado.

8 Pursuant to the agreement among Tri-State, CDPHE, EPA, WildEarth Guardians,
9 and the National Parks Conservation Association, Colorado's plan and
10 Regulation Number 3 were revised to require that Nucla Station close on or
11 before December 31, 2022 and meet an annual NOx limit of 952 tons per year by
12 January 1, 2020 on a calendar year basis beginning in 2020. Colorado's plan
13 revisions were approved by the Colorado Air Quality Control Commission on
14 December 15, 2016, submitted by CDPHE to EPA on May 26, 2017, and
15 approved by EPA in a final rule published in the Federal Register on July 5,
16 2018.

17 **Q: WHAT WAS TRI-STATE'S ORIGINAL SCHEDULE FOR RETIRING THE**
18 **NUCLA STATION?**

19 A: As part of the agreement, Tri-State originally intended to retire the Nucla Station
20 by December 31, 2022.

21 **Q: DID TRI-STATE'S SCHEDULE FOR RETIRING THE PLANT SUBSEQUENTLY**
22 **CHANGE?**

23 A: Yes. In July, 2019, Tri-State announced that the Nucla Plant would cease
24 operations when it exhausted its remaining on-site fuel supply which occurred on

1 September 9, 2019. This change in retirement schedule was due to the cost
2 associated with keeping the plant open for an additional 3 years with a total fuel
3 supply of approximately 60 days on site.

4 **Q: HOW DOES THE EARLY RETIREMENT OF NUCLA STATION RELATE TO**
5 **TRI-STATE’S RESPONSIBLE ENERGY PLAN THAT WAS ANNOUNCED IN**
6 **JULY, 2019?**

7 A: Since the decision to retire Nucla Station was made prior to Tri-State announcing
8 its Responsible Energy Plan, there is no correlation between the two events;
9 however, the closure of Nucla Station in 2019 is in keeping with Tri-State’s
10 commitment to retire all Colorado coal assets by 2030.

11 **Q: WHEN DID THE NUCLA STATION CEASE OPERATIONS?**

12 A: The plant’s on-site fuel supply was exhausted on September 9, 2019. Tri-State
13 officially announced the termination of Nucla Plant operations on September 19,
14 2019.

15 **Q: DOES THE TERMINATION OF OPERATIONS AT NUCLA STATION IMPACT**
16 **TRI-STATE’S ABILITY TO SERVE ITS COLORADO LOAD?**

17 A: No. Tri-State continues to have adequate resources to reliably serve its
18 Colorado load following termination of operations at Nucla Station. Mr. Wolaver
19 discusses the retirement of Nucla Station from a resource planning perspective in
20 greater detail in his testimony.

21 **Q: DOES THE TERMINATION OF OPERATIONS AT NUCLA STATION IMPACT**
22 **THE RELIABILITY OF THE COLORADO TRANSMISSION SYSTEM?**

23 A: No. The Colorado transmission system, particularly that portion located in
24 western Colorado, continues to reliably serve Tri-State and other transmission

1 users. Mr. Pink discusses the retirement of Nucla Station from a transmission
2 planning and operations perspective in greater detail in his testimony.

3 **Q: WHAT IS TRI-STATE'S PLAN FOR THE NUCLA STATION AND THE SITE AT**
4 **WHICH IT IS LOCATED?**

5 A: Decommissioning and dismantling of the plant is presently scheduled to begin
6 during the first half of 2020. Tri-State intends to demolish and remove all above
7 grade structures from the site, as well as remediate all ponds and other facilities
8 in order to comply with environmental laws. Mr. Nelson addresses
9 decommissioning and site issues in greater detail in his testimony.

10 **V. WORKFORCE TRANSITION AND COMMUNITY SUPPORT**

11 **Q: HOW MANY EMPLOYEES WORKED AT THE NUCLA STATION AT THE TIME**
12 **OPERATIONS CEASED?**

13 A: Thirty-five.

14 **Q: HOW MANY CURRENT PLANT EMPLOYEES WILL BE INVOLVED IN**
15 **DECOMMISSIONING THE PLANT?**

16 A: All 35 employees will continue to work at the plant to support decommissioning
17 activities. Some employees, however, may decide to pursue other opportunities.

18 **Q: WHAT IS TRI-STATE'S PLAN TO ASSIST FORMER NUCLA STATION**
19 **EMPLOYEES FOLLOWING TERMINATION OF PLANT OPERATIONS AND**
20 **DECOMMISSIONING?**

21 A: Some employees have moved to other positions within Tri-State. Those
22 employees that will no longer be employed by Tri-State will receive a generous
23 severance package. Additionally, Tri-State continues to provide educational

1 assistance to Nucla Station employees and has waived all requirements related
2 to educational reimbursement.

3 **Q: DID TRI-STATE COMMUNICATE WITH THE LOCAL GOVERNMENTS AND**
4 **COMMUNITIES THAT WILL BE AFFECTED BY THE RETIREMENT OF THE**
5 **NUCLA STATION?**

6 A: Yes. Tri-State had an extensive outreach program which included telephone call
7 notifications and meetings with Montrose and San Miguel County commissioners,
8 Town of Nucla officials, as well as applicable federal, state, and local legislators
9 on the same day as any public announcements were made. Subsequently,
10 follow-up meetings with county commissioners, town officials, and applicable
11 federal, state, and local legislators were scheduled as requested to coordinate
12 with county and town activities, or to address continuing concerns.

13 **Q: WHAT IS TRI-STATE'S PLAN TO ASSIST COMMUNITIES AFFECTED BY**
14 **CLOSURE OF THE PLANT?**

15 A: Tri-State is providing \$500,000 over the next five years in community support in
16 connection with the closure of Nucla Station. The \$500,000 will be provided to
17 and managed by the Montrose County West End Pay it Forward Trust.

18 **VI. APPROVAL OF RETIREMENT**

19 **Q: DO YOU BELIEVE IT IS IN THE PUBLIC INTEREST TO RETIRE THE NUCLA**
20 **STATION?**

21 A: Retirement of the Nucla Station is a key element of the agreement to revise
22 provisions of the Colorado SIP. Given the emission reduction and air quality
23 benefits associated with the SIP, retirement of Nucla Station is in the public
24 interest. Retirement of Nucla Station is also part of Tri-State's broader

1 Responsible Energy Plan to transition to a clean, reliable and affordable power
2 supply. As such, retirement of Nucla Station is also in the public interest from
3 that perspective.

4 **Q: WHAT IS TRI-STATE REQUESTING OF THE COMMISSION?**

5 A: Consistent with Tri-State's agreement in support of the SIP, Tri-State is
6 requesting that the Commission approve the retirement, abandonment, and
7 discontinuation of the Nucla Station without equivalent replacement facilities.
8 Given Tri-State's prior communications and coordination with the communities in
9 the area of Nucla Station, Tri-State also requests that the Commission waive the
10 notice requirements of Rule 3103(d).

11 **Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?**

12 A. Yes.

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**IN THE MATTER OF THE VERIFIED)
APPLICATION OF TRI-STATE GENERATION AND)
TRANSMISSION ASSOCIATION, INC. FOR) PROCEEDING NO. 20A-____
APPROVAL OF THE RETIREMENT OF THE)
NUCLA STATION, AND REQUEST FOR WAIVER)
OF RULE 3103(d))**

VERIFICATION OF BARRY W. INGOLD

STATE OF COLORADO)
)
COUNTY OF ADAMS) ss:

I, Barry W. Ingold, being duly sworn, do hereby depose and state that I am the Senior Vice President, Generation for Tri-State Generation and Transmission Association, Inc., I have read the foregoing direct testimony, and the facts set forth therein are true and correct to the best of my knowledge, information, and belief.


Signed this 10th day of February, 2020, at Westminster, Colorado.



Barry W. Ingold
Senior Vice President, Generation
Tri-State Generation and Transmission
Association, Inc.

Subscribed and sworn to before me this 10th day of February, 2020.

Witness my hand and official seal.



My Commission expires: April 4, 2022

