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FEDERAL ENERGY REGULATORY COMMISSION

NOTES

Before Commissioners: Charles D. Curtis, Chairman  
Georgiana

Alaskan Northwest Natural Gas Transportation Company--  
Pipeline Design and Capacity ) Report Nos. 2070-123, et al.

ORDER APPROVING ALASKA SEGMENT DESIGN SPECIFICATIONS AND INITIAL SYSTEM CAPACITY

(Issued August 6, 1979)

On March 2, 1979, Alaskan Northwest Natural Gas Transportation Company (Alaskan Northwest) filed an application pursuant to the Alaska Natural Gas Transportation Act of 1976 (ANCTA), the President's Decision 1/ and Section 7 of the Natural Gas Act, requesting that the Commission issue an order setting the design specifications and initial capacity for the Alaskan segment of the Alaska Natural Gas Transportation System. Notice of the application was issued on March 16, 1979. 2/ On May 17, 1979, the Commission issued an Order serving on all parties a copy of the Report of the Alaskan Delegate on the System Design Inquiry, 3/ and inviting comments on the Report as well as on Alaskan Northwest's application. Comments were received from Alaskan Northwest, the State of Alaska, and North American

1/ Executive Office of the President, Energy Policy and Planning, Decision and Report to Congress on the Alaska Natural Gas Transportation System (September, 1977).

2/ The Notice was published in the Federal Register on March 25, 1979 (44 FR 18050).

3/ The Delegate's Report addressed the matters which were the subject of the application, i.e., the design of and initial capacity for the segment of the pipeline.

et al.

Company of Alaska. The May 17 Notice provides a procedure by which a hearing on the factual questions involved in the discretion and operating pressure of the party has requested such a hearing pursuant to the procedures specified.

The Delegate's Report contains relevant portions of the President's Report incorporating the findings, issues, as well as various studies, reports, and the design specifications for the gas pipe. The Delegate's Report, including all of the materials cited or used in the preparation of the Report, and the application of Alaskan Northeast and exhibits thereto, along with the comments received in response to the May 17 Notice, constitute the record in this proceeding.

The Delegate's essential conclusions and recommendations in his Report were that the President's decision set the diameter of the pipe at 48 inches, that the maximum allowable operating pressure should be set at 2250 psig, and that the carbon dioxide

- 4/ These materials include, inter alia, written comments (including information responses) received by the Delegate during the course of preparation of an earlier draft of his Report; that earlier draft report, the comments received on that draft, the transcript of the conference he held, and various studies he had consulted in reaching his conclusions. These studies include, inter alia, "September 1978 Study Report, Sales Gas Conditioning Facilities, Prudhoe Bay, Alaska," prepared by the Ralph M. Parsons Company, and sponsored by a group of North Slope producers and potential shippers of the gas; that study was made available to the Delegate and to other government representatives in early October, 1978. As indicated in the Report, all of these materials are maintained in a file in the Delegate's office, as required by the Commission's Order of December 15, 1977, and are available for reference and inspection by all parties.

content of the gas stream should be considered in a separate order. 5/ The specific provisions proposed by the Delegate are the same as those proposed by Alaskan Northwest in its application, 6/ and are also the same as those in the Alcan proposal cited by the President's Decision.

The President's Decision stated that the diameter of the pipeline will be 48 inches. 7/ The Decision also creates a provision that the diameter of the pipeline is to be as authorized by the Federal Energy Commission, by stating that the provisions of the Decision subject to the provisions of the Decision are those included in the revised Alcan filing submitted to the Federal Energy Commission (FEC) on March 2, 1977. 8/ The Alcan proposal was to operate the pipeline at a maximum pressure of 1260 psig. The language in the Report accompanying the Decision suggesting that

. . . Alcan should consider increasing the operating pressure and wall thickness of its 48-inch diameter pipeline in order to allow for more efficient increases in throughput rate for additional reserves which might be committed to the system from either Alaskan or Canadian sources. . . 9/

*meaning 7*

5/ The Commission's May 17 Order stated that the carbon dioxide content issue would not be decided in response to comments received in this proceeding. On May 16, 1979, the Commission issued an order in Docket No. RM78-12, requesting submission in that docket of studies and comments with respect to the carbon dioxide content issue.

6/ Alaskan Northwest also seeks authorization for their proposed compressor station site and spacing. These were not addressed in the Delegate's Report but are part of the Alcan proposal. No comments were received on that subject.

7/ Decision at 13: "the gas transportation system will utilize a 48-inch diameter pipeline from Prudhoe Bay to James River, Alaska. . . . Except for modifications to those facilities are required by the Agreement on Principles between the U.S. and Canada. . . ."

8/ Decision at 13.

9/ Report accompanying Decision at 13.

would make the predisposition a reasonable one on appropriate showings. The President's Decision also stated that the capacity of the system should be quite for an average daily throughput of 2.2 billion cubic feet per day (Bcf/d), compressed, by the use of a conditioning facility of capacity of 2.2 Bcf/d. It was stated that this could be satisfied by a conditioning facility of 1250 psig pressure. The comments did not offer any new information as to the amount of gas that is expected to be available for transportation through the pipeline, nor any other information that would call for a different conclusion about the required capacity of the pipeline from that stated in the President's Decision.

The choice of operating pressure is important, not only because of the relationship of the pressure to the capacity throughput of the pipeline, but also because there is some relationship between the pressure and the ability of the gas stream to carry natural gas liquids. This latter relationship was the major focus of the comments received from the State of Alaska and Earth Resources. The State of Alaska is concerned about the ability of the gas stream to carry natural gas liquids because Alaska would like to exercise the option of developing, in Alaska, a petrochemical industry using the natural gas liquids. Alaska is concerned that an operating pressure of 1250 psig, in conjunction with other factors, such as the standard for carbon dioxide content in the gas stream and the type of process utilized for carbon dioxide removal, could preclude the development of a petrochemical industry in Alaska. Alaska is also concerned about the location of the conditioning facility, and that alternative sites (i.e., other than the one) for the facility should be given various consideration, either in this proceeding or in connection with the

10/ Decision at 13, 17.

11/ The State of Alaska filed two sets of comments, one on April 5, 1979, and another on July 1, 1979.

environmental analysis. 12/ The Commission's  
pressure bears upon the location of the conditioning  
facility because the proposal, involving location  
of the facility in Fairbanks, would require a higher  
operating pressure between Prudhoe Bay and Fairbanks.

The comments filed by Earth Resources also focused  
upon the location of the conditioning facility, and  
supported locating the facility at Fairbanks. Both  
Earth Resources and Alaska referred to a study which  
purportedly shows that the costs of constructing the  
conditioning facility in Fairbanks would be lower  
than the costs of constructing it at Prudhoe Bay. 13/

The Delegate's Report indicates that the amount  
of natural gas liquids carried in the gas stream is  
dependent upon the carbon dioxide content of the gas,  
as well as the pressure. 15/ The Commission has previously  
indicated, by its Order issued May 16, 1979, in Docket  
Nos. 7478-12 and 74 78-19, that it will decide the  
appropriate carbon dioxide standard in an order to  
be issued in Docket No. 7478-12. For the reasons stated  
below, the Commission prefers to consider the complex  
liquids carrying issue in the context of the carbon  
dioxide proceeding rather than delaying a decision  
on the pressure.

No party questions the choice of 48 inches as the  
appropriate diameter for the pipe. In its comments  
Alaska does not specifically oppose the choice of  
1150 psig as the appropriate pressure, nor does Alaska  
specifically advocate any particular alternative pressure.  
Instead, the basic thrust of Alaska's position is that  
the issue of the appropriate pressure is complex; that  
it is related to other issues, such as the liquids  
carrying capacity of the pipeline, the carbon dioxide  
content of the gas stream, and the various facilities  
that might be appropriate for processing and condition-  
ing the gas; and that the Commission ought to delay  
its decision pending further factual inquiry.

12/ The Draft Environmental Impact Statement processing  
inter alia the alternative sites for the conditioning  
facility was issued July 27, 1979.

13/ Comments of Earth Resources Company of Alaska (Docket No.  
1978).

14/ Other evidence in the record indicates the same.  
See the Delegate's Report at pp. 9-10, 12.

15/ Delegate's Report at pp. 10-11, 11-15.

Alaska Northwest, it is clear that the project sponsor, who vocally advocates the selection of 1250 psig as the appropriate operating pressure, and indeed, as stated above and in the Delegate's Report, the President's decision itself creates a strong presumption in favor of that choice. The record before us supports the choice of 1250 psig, and does not support any other choice.

The basic issue, therefore, is whether the partnership should decide the pressure now, or delay its decision pending further proceedings to establish a more complete record. In this regard, Alaska Northwest states in its comments that a choice of any pressure other than 1250 psig would substantially delay the project:

... The partnership continues to assure the pipe size, design pressure and system capacities for which approval has been requested in connection with engineering, test programs, and field programs which have been completed and are currently in progress. Any deviation from these specifications will result in a major delay of the project.

In light of the presumptions set forth in the Delegate's decision, the partnership's reliance on its stated assumptions was certainly reasonable and well founded.

We would also note that the design of the system has a direct bearing on its cost, that a decision on the operating pressure is an essential predicate to refining the design, and that the project sponsor's ability to prepare detailed cost estimates has an obvious bearing on their ability to proceed with arrangements to obtain financing for the project. Thus, a delay in determining the pressure would have serious and wide ranging consequences in delaying the entire project.

The Congress, through its enactment of the Act, and the President, through his Executive Order, have declared it to be uniquely important to our national ability to obtain new sources of domestic energy. The entire thrust and purpose of ANWA, as well as its explicit mandate, is to expedite the authorization, construction and operation of the project. It is a decision that is correct and will not result in a delay in the project.

We recognize that our decision may have been based on the liquids carrying capacity of the pipeline, but the capacity is also affected by other factors, such as the carbon dioxide content of the gas, the nature of the condensation, and the location of these facilities. All of these considerations, however, are secondary considerations of our decision. In light of the President's Decision, the overriding consideration in determining the operating pressure of the pipeline is the pipeline's throughput capacity.<sup>15/</sup> As discussed above, absent evidence as to a need for increased capacity, the President's Decision creates a presumption that the operating pressure should be 1260 psig. There is no evidence in the record that the volume of gas expected to be transported through the pipeline from Prudhoe Bay has changed such as to indicate that increased pressure, and thereby increased capacity, are required. Accordingly, upon consideration of the record, the Commission has determined that the Alaska segment of the ANSAS should be operated at a maximum allowable operating pressure of 1260 psig.

The Commission finds:

The design specifications and initial operating capacity for the Alaskan segment of the Alaskan Natural Gas Transportation System, as proposed by Alaskan Northwest in its application filed on March 2, 1973, are required by the public convenience and necessity and should be incorporated as part of the conditional certificate of public convenience and necessity issued by the Commission's Order of December 15, 1977 in this docket.

The Commission orders:

(A) The design specifications for the Alaskan segment of the Alaskan Natural Gas Transportation System shall be as follows:

1. 48-inch diameter pipe size.
2. 1260 psig maximum allowable operating pressure.

<sup>15/</sup> See Delegate's Report at p. 28.

- 3. The proposed station site  
located on the  
of the  
of the

All as proposed by the applicant on  
2, 1979, in this docket.

(B) The applicant sets of conditions which shall be incorporated into the certificate of public convenience and necessity issued by the Commission's Order of December 16, 1977 in this docket, pursuant to the provisions of the Alaska Natural Gas Transportation Act, the President's Proclamation, and the Natural Gas Act.

(C) This Order shall become effective on the date of issuance. Pursuant to sections 9 and 10 of the Alaska Natural Gas Transportation Act, this order constitutes final agency action and is not subject to the provisions for rehearing set forth in 42 of the Federal Gas Act and in § 1.34 of the Commission's Rules of Practice and Procedure.

By the Commission.

(SEAL)

John D. [Name]  
[Title]

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UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

ANGTS

Before Commissioners: Charles B. Curtis, Chairman;  
Georgiana Sheldon, and Matthew Holden, Jr.

Alaskan Northwest Natural Gas )  
Transportation Company-- ) Docket Nos. CP78-123, et al.  
Pipeline Design and Capacity )

ORDER APPROVING ALASKA SEGMENT DESIGN  
SPECIFICATIONS AND INITIAL SYSTEM CAPACITY

(Issued August 6, 1979)

On March 2, 1979, Alaskan Northwest Natural Gas Transportation Company (Alaskan Northwest) filed an application pursuant to the Alaska Natural Gas Transportation Act of 1976 (ANGTA), the President's Decision 1/ and Section 7 of the Natural Gas Act, requesting that the Commission issue an order setting the design specifications and initial capacity for the Alaskan segment of the Alaska Natural Gas Transportation System. Notice of the application was issued on March 16, 1979. 2/ On May 17, 1979, the Commission issued an Order serving on all parties a copy of the Report of the Alaskan Delegate on the System Design Inquiry, 3/ and inviting comments on the Report as well as on Alaskan Northwest's application. Comments were received from Alaskan Northwest, the State of Alaska, and Earth Resources

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1/ Executive Office of the President, Energy Policy and Planning, Decision and Report to Congress on the Alaska Natural Gas Transportation System (September, 1977).

2/ The Notice was published in the Federal Register on March 26, 1979 (44 FR 18060).

3/ The Delegate's Report addressed the matters which were the subject of the application, i.e., the diameter of and maximum allowable operating pressure of the pipeline.

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et al.

Company of Alaska. The May 17 Order also specified a procedure by which a hearing could be requested on the factual questions involved in determining the diameter and operating pressure of the pipeline. No party has requested such a hearing pursuant to the procedures specified.

The Delegate's Report contained a review of the relevant portions of the President's Decision, and the Report accompanying the Decision, that bear upon these issues, as well as various studies, reports, and comments that were considered by the Delegate in evaluating the design specifications for the pipeline. The Delegate's Report, including all of the materials cited or used in the preparation of the Report, <sup>4/</sup> and the application of Alaskan Northwest and exhibits thereto, along with the comments received in response to the May 17 Notice, constitute the record in this proceeding.

The Delegate's essential conclusions and recommendations in his Report were that the President's Decision set the diameter of the pipe at 48 inches, that the maximum allowable operating pressure should be set at 1260 psig, and that the carbon dioxide

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<sup>4/</sup> These materials include, inter alia, written comments (including information responses) received by the Delegate during the course of preparation of an earlier draft of his Report, that earlier draft report, the comments received on that draft, the transcript of the conference he held, and various studies he had consulted in reaching his conclusions. Those studies include, inter alia, "September 1978 Study Report, Sales Gas Conditioning Facilities, Prudhoe Bay, Alaska," prepared by the Ralph M. Parsons Company, and sponsored by a group of North Slope producers and potential shippers of the gas; that study was made available to the Delegate and to other government representatives in early October, 1978. As indicated in the Report, all of these materials are maintained in a public file in the Delegate's office, as required by the Commission's Order of December 16, 1977, and have been available for reference and inspection by all parties.

content of the gas stream should be considered in a separate order. 5/ The specifications recommended by the Delegate are the same as those proposed by Alaskan Northwest in its application, 6/ and are also the same as those in the Alcan proposal approved by the President's Decision.

The President's Decision decided that the diameter of the pipeline will be 48 inches. 7/ Moreover, the Decision creates a predisposition that the 1260 psig system is the one authorized by the President and the Congress, by stating that the facilities approved and subject to the provisions of ANGTA are those included in the revised Alcan filing submitted to the Federal Power Commission (FPC) on March 8, 1977. 8/ The Alcan proposal was to operate the pipeline at a maximum pressure of 1260 psig. The language in the Report accompanying the Decision suggesting that

. . . Alcan should consider increasing the operating pressure and wall thickness of its 48-inch diameter pipeline in order to allow for more efficient increases in throughput rate for additional reserves which might be committed to the system from either Alaskan or Canadian sources. . . 9/

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- 5/ The Commission's May 17 Order stated that the carbon dioxide content issue would not be decided in response to comments received in this proceeding. On May 16, 1979, the Commission issued an order in Docket No. RM78-12, requesting submission in that docket of studies and comments with respect to the carbon dioxide content issue.
- 6/ Alaskan Northwest also seeks authorization for their proposed compressor station size and spacing. These were not addressed in the Delegate's Report but were part of the Alcan proposal. No comments were received on that subject.
- 7/ Decision at 13: "the gas transportation system will utilize a 48-inch diameter pipeline from Prudhoe Bay to James River, Alberta . . . except as modifications to those facilities are required by the Agreement on Principles between the U.S. and Canada. . ."
- 8 / Decision at 13.
- 9/ Report accompanying Decision at 193.

would make the predisposition a rebuttable one on appropriate showings. The President's Decision also stated that the capacity of the system should be adequate for an average daily throughput of up to 2.4 billion cubic feet per day (Bcfd), and with increased compression, capable of increasing to an average daily capacity of 3.2 Bcfd. 10/ Those requirements would be satisfied by a combination of 48-inch pipe and 1250 psig pressure. The comments did not offer any new information as to the amount of gas that is expected to be available for transportation through the pipeline, nor any other information that would call for a different conclusion about the required capacity of the pipeline from that stated in the President's Decision.

The choice of operating pressure is important, not only because of the relationship of the pressure to the capacity throughput of the pipeline, but also because there is some relationship between the pressure and the ability of the gas stream to carry natural gas liquids. This latter relationship was the major focus of the comments received from the State of Alaska and Earth Resources. The State of Alaska 11/ expressed concern about the ability of the gas stream to carry natural gas liquids because Alaska would like to preserve the option of developing, in Alaska, a world-class petrochemical industry using the natural gas liquids. Alaska is concerned that an operating pressure of 1260 psig, in conjunction with other factors, such as the standard for carbon dioxide content in the gas stream and the type of process utilized for carbon dioxide removal, could preclude the development of a petrochemical industry in Alaska. Alaska is also concerned about the location of the conditioning facility, and believes that alternative sites (i.e., other than Prudhoe Bay) for the facility should be given serious consideration, either in this proceeding or in connection with the

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10/ Decision at 13, 17.

11/ The State of Alaska filed two sets of comments, one on April 5, 1979, and another on July 2, 1979.

environmental analysis. 12/ The decision as to operating pressure bears upon the location of the conditioning facility because one proposal, involving location of the facility in Fairbanks, would require a higher operating pressure between Prudhoe Bay and Fairbanks. 13/

The comments filed by Earth Resources also focused upon the location of the conditioning facility, and supported locating the facility at Fairbanks. Both Earth Resources and Alaska referred to a study which purportedly shows that the costs of constructing the conditioning facility in Fairbanks would be lower than the costs of constructing it at Prudhoe Bay. 14/

The Delegate's Report indicates that the amount of natural gas liquids carried in the gas stream is dependent upon the carbon dioxide content of the gas as well as the pressure. 15/ The Commission has previously indicated, by its Order issued May 16, 1979 in Docket Nos. RM78-12 and RM 79-19, that it will decide the appropriate carbon dioxide standard in an order to be issued in Docket No. RM78-1. For the reasons stated below, the Commission prefers to consider the complex liquids carrying issue in the context of the carbon dioxide proceeding rather than delaying a decision on the pressure.

No party questions the choice of 48 inches as the appropriate diameter for the pipe. In its comments Alaska does not specifically oppose the choice of 1260 psig as the appropriate pressure, nor does Alaska specifically advocate any particular alternative pressure. Instead, the basic thrust of Alaska's position is that the issue of the appropriate pressure is complex; that it is related to other issues, such as the liquids carrying capacity of the pipeline, the carbon dioxide content of the gas stream, and the various facilities that might be appropriate for processing and conditioning the gas; and that the Commission ought to delay its decision pending further factual inquiry.

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12/ The Draft Environmental Impact Statement assessing inter alia the alternative sites for the conditioning facility was issued July 27, 1979.

13/ Comments of Earth Resources Company of Alaska (July 2, 1979).

14/ Other evidence in the record indicates the contrary. See the Delegate's Report at pp. 9-10, 12.

15/ Delegate's Report at pp. 19-21, 61-66.

Alaskan Northwest, the project sponsor, specifically advocates the selection of 1260 psig as the appropriate operating pressure, and indeed, as discussed above and in the Delegate's Report, the President's Decision itself creates a strong presumption in favor of that choice. The record before us supports the choice of 1260 psig, and does not support any other choice.

The basic issue, therefore, is whether the Commission should decide the pressure now, or delay its decision pending further proceedings to compile a more extensive record. In this regard, Alaskan Northwest states in its comments that a choice of any pressure other than 1260 psig would substantially delay the project:

. . . The partnership continues to assume the pipe size, design pressure and system capacities for which approval has been requested in connection with engineering, test programs, and field programs which have been completed and are currently in progress. Any deviation from these specifications will result in a major delay of the project.

In light of the presumptions set forth in the President's Decision, the partnership's reliance on its stated assumptions was certainly reasonable and well founded.

We would also note that the design of the system has a direct bearing on its cost, that a decision on the operating pressure is an essential predicate to refining the design, and that the project sponsors' ability to prepare detailed cost estimates has an obvious bearing on their ability to proceed with arrangements to obtain financing for the project. Thus, a delay in determining the pressure could have serious and wide ranging consequences in delaying the entire project.

The Congress, through its enactment of ANGTA, and the President, through his Decision, have declared the ANGTS to be uniquely important to our nation's ability to obtain new sources of domestic energy. The entire thrust and purpose of ANGTA, as well as its explicit mandate, is to expedite the authorization, construction and operation of the ANGTS. Thus, the one decision that we cannot and will not make is a decision to delay making a decision.

We recognize that our decision may have some effect on the liquids carrying capacity of the pipeline, but the capacity is also affected by other factors, such as the carbon dioxide content of the gas stream as well as the nature of the conditioning and processing facilities. We also recognize that our decision may have some effect on the location of those facilities. All of those considerations, however, are secondary consequences of our decision. In light of the President's Decision, the overriding consideration in determining the operating pressure of the pipeline is the pipeline's throughput capacity. <sup>16/</sup> As discussed above, absent evidence as to a need for increased capacity, the President's Decision creates a presumption that the operating pressure should be 1260 psig. There is no evidence in the record that the volume of gas expected to be transported through the pipeline from Prudhoe Bay has changed such as to indicate that increased pressure, and thereby increased capacity, are required. Accordingly, upon consideration of the record, the Commission has determined that the Alaska segment of the ANGTS should be operated at a maximum allowable operating pressure of 1260 psig.

The Commission finds:

The design specifications and initial system capacity for the Alaskan segment of the Alaskan Natural Gas Transportation System, as proposed by Alaskan Northwest in its application filed on March 2, 1979, are required by the public convenience and necessity and should be incorporated as part of the conditional certificate of public convenience and necessity issued by the Order of December 16, 1977 in this docket.

The Commission orders:

(A) The design specifications for the Alaskan segment of the Alaskan Natural Gas Transportation System shall be as follows:

1. 48-inch diameter pipe size;
2. 1260 psig maximum allowable operating pressure;

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<sup>16/</sup> See Delegate's Report at p. 58.

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3. compressor station size and spacing for an initial capacity of 2.0 to 2.4 Bcfd capable of expansion, through additional compression, to an an average daily volume of 3.2 Bcfd;

all as proposed by the application filed on March 2, 1979, in this docket.

(B) The requirements of ordering paragraph (A) above shall be incorporated into the conditional certificate of public convenience and necessity issued by the Commission's Order of December 16, 1977 in this docket, pursuant to the provisions of the Alaskan Natural Gas Transportation Act, the President's Decision, and the Natural Gas Act.

(C) This Order shall become effective on its date of issuance. Pursuant to sections 9 and 10 of the Alaska Natural Gas Transportation Act, this Order constitutes final agency action and is not subject to the provisions for rehearing set forth in § 19 of the Natural Gas Act and in § 1.34 of the Commission's Rules of Practice and Procedure.

By the Commission.

( S E A L )

Lois D. Cashell,  
Acting Secretary.

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