

TABLE OF CONTENTS

	Page
I. PURPOSE	1
II. PROPOSED ALTERNATIVE PIPELINES.....	1
A. Intervenors' Project Cost Estimates are Conceptual.....	2
B. Intervenors' Project Schedules Are Not Realistic	4
C. Environmental Comparison	8
III. SCGC's AND TURN's PROPOSED LNG ALTERNATIVES ARE NOT PRACTICAL	10

1 Second, the project schedules put forward by the intervenors are illustrative only and do
2 not address significant regulatory requirements. Taking these requirements into consideration,
3 we estimate that each of the alternatives would be in-service in mid 2020 at the earliest, later
4 than North-South Project.

5 Finally, the intervenors have failed to provide evidence that supports claims of reduced
6 environmental impacts of the intervenors' projects as compared to North-South Project. The
7 minimal information provided on the intervenors' projects, moreover, indicates that their
8 alternatives may have more environmental impacts than the North-South Project.

9 **A. Intervenors' Project Cost Estimates are Conceptual**

10 Based on the level of project definition and the absence of design drawings, deliverables,
11 and execution planning, the intervenors' alternative project cost estimates appear to be, at best,
12 conceptual and with a high level of uncertainty.

13 El Paso provided no cost estimate information on their alternative in their testimony, only
14 stating the project "would involve the looping of its Havasu Crossover in La Paz County,
15 Arizona with a 42-inch diameter pipeline and the installation of compression facilities along the
16 pipeline loop in Arizona."¹ El Paso further states in data requests that their cost estimates were
17 developed using proprietary economic models, the details of which were not shared with
18 SoCalGas and SDG&E.² Transwestern indicated in response to data requests that several factors
19 which could influence the cost estimate, including footage by terrain type, number of
20 bores/directional drills, number of crews, permits and technical studies required, and
21 ROW/staging area acquisition plans, among others, were not investigated and would not be until

¹ Prepared Updated Testimony of Anthony M. Sanabria on behalf of El Paso Natural Gas Company, L.L.C., page 6.

² A.13-12-013, El Paso response to SoCalGas/SDG&E Data Request No. 1.

1 further funding could be justified.³ TransCanada's testimony provides a total cost for their
2 proposed pipeline and compressor station, but lacks any further cost detail for main project
3 components, such as engineering, construction, material procurement, environmental, etc. The
4 lack of transparency into intervenors' cost estimates makes it very difficult to ascertain whether
5 they truly have design elements that will lead to a lower cost than the North-South Project. As
6 noted in the Prepared Rebuttal Testimony of Mr. Bisi, SoCalGas and SDG&E have a number of
7 concerns with regards to the proposed alternative projects and believe the intervenors may have
8 made optimistic assumptions that, if not realized, could cause the estimates to surpass that of the
9 North-South Project.⁴

10 Even with well-defined projects there are risks of cost overruns. This risk is exacerbated
11 when a project scope is not well defined. For example, both TransCanada and Transwestern
12 have identified in their testimonies other projects they have undertaken in California and
13 Arizona. But they fail to mention that for certain projects they made updated filings with FERC
14 which contain increases from the original cost estimates. Transwestern, Phoenix Lateral Project
15 (FERC Docket No. CP06-459), Exhibit K indicates an increase from the originally filed cost of \$
16 645 million to \$ 942 million, a 46% increase.⁵ TransCanada showed similar cost increases with
17 their Yuma Lateral Project (FERC Docket No. CP06-61, CP08-152-001). The original estimate
18 filed with FERC was \$ 8.6 million and was revised to \$ 14.7 million, a 71% increase.⁶

19 By comparison, the North-South Project, as presented in my Updated Direct Testimony,
20 is within a Class 3 estimate as defined by Association for the Advancement of Cost Engineers

³ A.13-12-013, Transwestern response to SoCalGas/SDG&E Data Request No. 1.

⁴ A.13-12-013, Prepared Rebuttal Testimony David Bisi.

⁵ Phoenix Expansion Projects Cost Statement, filed October 16, 2009.

⁶ Abbreviated Application of North Baja Pipeline Company, LLC. To Amend Certificate of Public Convenience and Necessity, February 4, 2010.

1 International (AACE International). The maturity of this estimate is the result of two years of
2 extensive design, planning, environmental surveys and analysis, field review, community
3 outreach, and in-depth interactions with federal, state, and local agencies. These efforts have
4 resulted in the refinement of North-South Project scope and increased the level of project
5 definition, degree of completeness of deliverables, and improved accuracy of the cost estimate
6 and schedule.

7 **B. Intervenor’s Project Schedules Are Not Realistic**

8 Transwestern and TransCanada present high-level timelines indicating project in-service
9 dates as early as 2017⁷ and 2018⁸, respectively. El Paso does not identify in-service dates for
10 their options other than stating that something could be available as early as 2018.⁹ While these
11 timelines appear to be primarily illustrative, El Paso and Transwestern use them to assert more
12 expeditious in-service dates of their alternatives as compared to the North-South Project, which
13 they believe further strengthens the position of the alternatives over the North-South Project.

14 We believe that these dates are unreliable given that the intervenors fail to take into
15 account significant events which must occur prior to filing a certificate application with FERC.
16 Most significantly, all the intervenors’ schedules appear to assume that they could obtain an
17 agreement with SoCalGas and SDG&E in the very near term and then immediately start the
18 FERC process. For example, El Paso assumed that a binding agreement could be executed by
19 January 2015¹⁰ and TransCanada’s November 2018 in-service date hinges on having an

⁷ Direct Testimony of Steven Hearn on behalf of Transwestern Pipeline Company, LLCC, Table 4, page 10.

⁸ Prepared Direct Testimony of James R. Schoene on behalf of TransCanada Pipelines Limited and North Baja Pipeline LLC, page 5.

⁹ Prepared Updated Testimony of Anthony M. Sanabria on behalf of El Paso Natural Gas Company, L.L.C., page 5.

¹⁰ A.13-12-013, El Paso Response to SoCalGas/SDG&E Data Request No. 1, Question 3.

1 agreement with SoCalGas and SDG&E executed by July 2015 and approved by the CPUC by
2 May 2016. Transwestern's schedule does not even contemplate the need to execute such an
3 agreement and was premised on a start date for the FERC pre-filing Process in March of 2015.
4 Clearly, the start date of each of the intervenors' schedules needs to be adjusted to reflect the
5 reality of the process and the current status.

6 In reality, the starting point for all of the intervenor schedules must be a decision in this
7 proceeding adopting one or more of the intervenors' alternatives to the North-South Project.
8 Absent such a decision, SoCalGas and SDG&E would not enter into long term contract
9 negotiations. A final decision in this proceeding is assumed to occur 1st quarter 2016 as
10 identified in Table 1 below. Accordingly, each of the intervenors' schedules must be extended
11 by six to twelve months just to reflect this reality. Furthermore, the schedules need to include a
12 period of time for negotiating a long term contract with SoCalGas and SDG&E and for
13 Commission review and approval. In our estimation this would add another 6 months to the
14 schedules for contract negotiations and 18 months for a full Commission proceeding. All
15 intervenors indicate they will file an application at FERC and expect FERC to issue a certificate
16 and notice to proceed. The intervenors estimate that it will take approximately 12 months from
17 the time the application is filed to receive FERC certification and two of the three intervenors
18 indicate an additional 3 months to obtain a notice to proceed. El Paso's anticipates that this
19 process could be completed in approximately 15 months, based upon Kinder Morgan's

1 experience.¹¹ TransCanada indicates these phases will take approximately 15 months.¹²

2 Transwestern indicates 12 months to receive FERC construction approval.¹³

3 The approval process for any of the alternatives could be prolonged as a result of
4 necessary environmental reviews. We assume all intervenor projects would be subject to
5 National Environmental Policy Act (NEPA), and TransCanada's project will also be subject
6 California Environmental Quality Act (CEQA) requirements. Because the NEPA or
7 NEPA/CEQA would need to be completed prior to FERC acting on the application for
8 certification, FERC's consideration of the application may be delayed if there are significant
9 environmental concerns. El Paso's and Transwestern's projects may be subject to environmental
10 review performed by local jurisdictions in Arizona. None of the intervenors identified time for
11 environmental review in their schedules, or make specific mention of NEPA, NEPA/CEQA, or
12 local environmental review as part of their schedule discussion. Omission of environmental
13 review from the intervenors' schedules could be significant, particularly given the fact that, as
14 discussed below, there is no specific information currently available regarding the potential
15 environmental impacts that could be associated with any of the alternatives. In our experience,
16 identification of environmental impacts can often lead to delays in permitting processes.

17 Each of the intervenors assumes construction would commence shortly after the FERC
18 issues its certificate and notice to proceed. They assume that it would take between 9 and 12
19 months for construction. In order to achieve these aggressive construction schedules, it is
20 assumed that the procurement of pipeline materials and compression equipment and acquisition

¹¹ A.13-12-013, El Paso Response to SoCalGas and SDG&E Date Request No. 1, Question 3.

¹² Prepared Direct Testimony of James R. Schoene on behalf of TransCanada Pipelines Limited and North Baja Pipeline LLC, page 5.

¹³ Direct Testimony of Steven Hearn on behalf of Transwestern Pipeline Company, LLCC, Table 4, page 10.

1 of new right-of-way, all significant expenditures, would be completed prior to receiving FERC
2 approval and notice to proceed.

3 Table 1 provides what we believe to be a potential schedule for project development,
4 construction and placement in-service of the proposed alternatives. This schedule takes into
5 account the aforementioned steps omitted from the intervenors' timelines and reflects favorable
6 regulatory and permitting time frames. As further described above, we believe this schedule
7 could likely be optimistic as the lack of any appreciable scope definition increases this risk for
8 potential delays.^{14,15} It also assumes that intervenors are willing to assume significant economic
9 risk by completing material and equipment procurement and right-of-way acquisition prior to
10 completion of environmental reviews and receipt of a FERC certificate. As identified in Table 1,
11 SoCalGas and SDG&E estimate the earliest in-service date for any of the proposed alternatives
12 to the North-South Project to be mid-2020. Should any of the intervenors elected not to proceed
13 with pre-filing activities prior to Commission approval of the contract, or are not willing to
14 initiate material and equipment procurement and acquisition of right-of-way prior to FERC
15 approval, their in service dates could be as late as 2021 or 2022. This does not support
16 intervenor claims that the alternatives would be in-service prior to the North South Project.

¹⁴ In the case of Transwestern's Phoenix Lateral Project, where the Arizona Corporation Commission issued an order in March 2006 pre-approving cost recovery for its jurisdictional Arizona utilities' participation in the expansion project, the pipeline's September 2006 application to FERC for certificate authority was initially approved in fourteen months, *Transwestern Pipeline Co., LLC*, 121 FERC ¶ 61, 175 (2007), *reh'g denied*, 122 FERC ¶ 61.165 (2008). However, litigation involving landowner approvals and other issues delayed the in-service date of Transwestern's Phoenix Lateral to March 2009. *See, e.g., Transwestern Pipeline Co. v. 17.19 Acres of Property Located in Maricopa County, etc., et al.*, 550 F.3d 770 (9th Cir. 2008).

¹⁵ In the case of Transcanada subsidiary North Baja Pipeline, LLC's (North Baja) application to expand its system to import liquefied natural gas from Mexico to southern California, where North Baja filed its FERC certificate application in February 2006 and FERC issued the certificate in 20 months, *North Baja Pipeline, LLC*, 121 FERC ¶ 61,010 (2007), *reh'g and stay denied*, 123 FERC ¶ 61,073 (2008), litigation of environmental concerns further delayed the project. *See, e.g., South Coast Air Quality Management District v. FERC*, 621 F.3d 1085 (9th Cir. 2010).

**Table 1: Intervenor Pipeline Alternatives to North-South Project
Estimated In-Service Timeline**

Estimated Intervenor Project Schedule																												
Project Tasks	2015				2016				2017				2018				2019				2020				2021			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
CPUC Decision A.13-12-013				★																								
Contract Negotiation																												
Commission Review and Approval																												
Pre-Filing FERC																												
FERC Application Process																												
NEPA, NEPA/CEQA (concurrent with application)																												
Notice to Proceed																												
Pipeline and Compression Construction																												

C. Environmental Comparison

El Paso, TransCanada, and Transwestern argue that their proposed alternative projects will result in reduced environmental impacts as compared to the North-South Project, but that conclusion is not supported by their testimony, or by their responses to data requests. None of the intervenors has provided any meaningful detail or analysis regarding the types of environmental resources that may be impacted by the development of its proposed alternative pipeline route. Consequently, there is no evidence to support the proposition that any of the intervenors’ proposals will result in significantly fewer environmental impacts than the North-South Project.

Rather, the information that is available suggests that there may be more environmental impacts associated with the alternatives than with the North-South Project. All three of the proposed alternative pipelines are considerably longer than the 65-mile North-South Pipeline. TransCanada proposes 105 miles of new pipeline (90 miles of 36-inch pipeline and 15 miles of 24-inch pipeline). Transwestern proposes 120 miles of 30-inch pipeline. El Paso proposes approximately 100 miles of 42-inch pipeline. The longer route lengths could result in greater overall environmental impacts caused by new pipeline construction.

Additionally, the North-South Project will predominantly utilize existing utility corridors and roadways, to a greater extent than the Transwestern and TransCanada alternative proposals.

1 Transwestern has explained that a portion of its pipeline would use existing rights-of-way, which
2 suggests that a majority of the proposed route would not use existing rights-of-way, unlike the
3 North-South Project. The Transwestern proposed project would run mostly through sparsely
4 populated desert landscape, and therefore has the potential to disturb a great deal of natural and
5 cultural resources.

6 TransCanada has not indicated that its proposed pipeline would utilize existing rights-of-
7 way or energy corridors, and has noted that it would cross almost entirely through “uninhabited
8 public lands.” TransCanada has also explained that its proposed project would run adjacent to
9 multiple wilderness areas, and would cross the Chemehuevi Desert Wildlife Management Area,
10 which is a conservation area for the threatened Desert Tortoise. Based upon even a cursory
11 review of the testimony, it appears that the TransCanada proposal may therefore impact greater
12 natural and cultural resources than would be present along the roads and corridors where most of
13 the North-South Project will be sited.

14 Although El Paso has explained that its proposal would use existing rights-of-way, it has
15 not provided any meaningful information regarding the route nor the types of biological or
16 cultural resources that its proposed route would impact. Additionally, although El Paso has
17 emphasized that no additional facilities “in California” would be required, El Paso has not
18 described the types of environmental impacts its new facilities in Arizona would have. It is thus
19 premature at best for El Paso to assert that its proposed alternative would have “substantial
20 environmental advantages” as compared to the North-South Project.

21 Finally, even for those alternative proposals that are not subject to CEQA, the
22 environmental review and permitting for the siting and construction of each of the proposed
23 alternatives would entail similar permitting and approvals including, for example, a FERC

1 Certificate of Public Convenience and Necessity supported by an Environmental Impact
2 Statement, right-of-way grants, state permits and authorizations, which may include a streambed
3 authorization agreement, encroachment permits, Section 10 and 404 permits from the Army
4 Corps of Engineers, a Section 401 Water Quality Certification, a National Pollutant Discharge
5 Elimination System (NPDES) Stormwater Construction Permit, and NPDES hydrostatic test
6 permit and a dewatering permit from the applicable state water quality control board. Extensive
7 wetland, botanical, cultural, paleontological and visual surveys will also need to be conducted
8 prior to project approval. It does not appear that any of this necessary environmental review and
9 surveying has even been initiated for any of the proposed alternatives. Therefore, the statements
10 El Paso, Transwestern, and TransCanada that their alternative pipeline projects will result in less
11 environmental impact is unsupported. As noted above, with their substantially longer pipeline
12 routes—100 miles, 105 miles, and 120 miles versus 65 miles for the North-South Project—and
13 with proposed routes through pristine desert habitat, experience and common sense indicates
14 that the intervenor alternatives may in fact have substantially greater environmental impacts than
15 the North-South Project.

16 **III. SCGC's AND TURN's PROPOSED LNG ALTERNATIVES ARE NOT**
17 **PRACTICAL**

18 Both TURN and SCGC have suggested the construction of an LNG facility as an
19 alternative to the North-South Project. Specifically, TURN suggests that SoCalGas could
20 construct a LNG peak shaving plant at an appropriate location to achieve the same reliability
21 outcome, but provides no cost estimates for such a project. On the other hand, SCGC suggests
22 the addition of an LNG storage plant in San Diego County, with an estimated cost of \$259
23 million for a facility with 2 Bcf of inventory and a 200 MMcfd withdrawal rate.

1 SoCalGas and SDG&E's preliminary assessment of an LNG peak shaving facility with
2 capacity for a period of 3 days would require storage capacity of 2.4 BCF, a maximum
3 withdrawal/regasification rate of 800MMSCFD, and adequate liquefaction facilities to refill.
4 SoCalGas and SDG&E would expect this facility to cost well over \$1 billion dollars. A facility
5 of this size would require extensive siting, planning, and environmental reviews, and likely result
6 in a schedule of 7-8 years, or possibly longer, from the time a decision is made to move forward
7 with such a project. In addition, an LNG facility of this size, with both liquefaction and
8 gasification facilities would require significant operation and maintenance support and
9 corresponding costs.

10 This concludes my prepared rebuttal testimony on project alternatives.