

**UNITED STATES OF AMERICA
BEFORE
THE FEDERAL ENERGY REGULATORY COMMISSION**

TransConnect, LLC

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Docket No. ER02-____-000

**DIRECT TESTIMONY
OF
CAROLYN J. COWAN
ON BEHALF OF
TRANSCONNECT, LLC**

November 2001

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7

8 **Q: Please state your name, occupation and business address.**

9 A: My name is Carolyn J. Cowan. I am the Director of Strategic Transmission
10 Development for Sierra Pacific Power Company and Nevada Power Company
11 (collectively “the Company”). My business address is 6100 Neil Road, Reno,
12 Nevada 89511.

13 **Q: Please describe your experience and educational background.**

14 A: I have worked for the Company for over 11 years. I started with Sierra Pacific
15 Power Company in 1990 and have held various positions within the transmission
16 operations and planning departments. In July of 1999, I became Director of
17 Strategic Transmission Development for the Company. In this role, I am
18 responsible for various transmission business matters, including Regional
19 Transmission Organization (RTO) and Transco development efforts. In addition
20 to these development efforts, I am responsible for Transmission Planning and
21 Transmission Contracts.

22 I received a Bachelor of Science degree in Electrical Engineering in 1990
23 and a Master of Business Administration degree in 1998 from the University of
24 Nevada, Reno. I am a registered Professional Engineer in the State of Nevada.
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1 **Q: What is your role with respect to TransConnect, LLC?**

2 A: Since May, 2000, I have been a member of the Steering Committee responsible
3 for establishing TransConnect as an Independent Transmission Company (ITC).
4 In addition, I participate in a number of TransConnect working groups.

5 **Q: Please state the purpose of your testimony.**

6 A: My testimony will (1) describe the risks and uncertainty that a transmission owner
7 faces, especially when developing a new transmission project, and (2) propose a
8 rate of return on equity (ROE) consistent with the range of reasonableness and
9 other recommendations of financial witness William E. Avera (Exhibit No. TC-
10 10) and commensurate with these risks.

11 **Q. Please summarize your testimony.**

12 A. Project investment risk is related to the probability of earning a return less than
13 the expected return – the greater the chance of low or negative returns, the riskier
14 the investment. It bears emphasis that investment in transmission projects is
15 extremely risky when the many challenges of actually completing a construction
16 project are taken into account; just one stubborn roadblock can cause a project to
17 fail and result in unrecovered investments. In fact, as the Federal Energy
18 Regulatory Commission (“Commission”) is well aware, for every new
19 transmission project that comes before it for inclusion in rates or other reasons,
20 there are several projects that are never introduced to the Commission, many of
21 which generated significant expenditures on planning, design and permitting.
22 For simplicity, my testimony separates the risks of developing new transmission
23 projects into four categories: (1) political/restructuring issues; (2) business and

1 opportunity risks; (3) environment-related risks; and (4) timing risks. A company
2 can encounter these obstacles at any stage of a project's development, and it is
3 important to note that each of these risks are interrelated and compounding. For
4 example, environmental concerns can impact the cost or timing of the project,
5 which can affect financing decisions and/or meeting the in-service dates of a new
6 generator or load.

7 Given the risks that TransConnect will assume when it becomes an ITC,
8 and considering the factors discussed in the testimony of TransConnect's financial
9 witness, Dr. William E. Avera, TransConnect is requesting an ROE from within
10 the upper end of Dr. Avera's 12.0 to 15.5 percent range of reasonableness, or 14.5
11 percent.

12 **POLITICAL / RESTRUCTURING RISKS**

13 **Q: Can you explain your reference to "political/restructuring risks"?**

14 A: The restructuring of the industry has made it difficult to plan for the future, and
15 the most precarious aspect of planning or operating a business is a transitional
16 stage. Many companies experienced this frustration as states implemented retail
17 access programs and their role as sole energy supplier changed. Companies that
18 attempted to follow federal restructuring efforts found themselves in conflict with
19 one or several states by which they were also regulated or *vice versa*.

20 **Q: Have Nevada Power and Sierra Pacific Power faced such risks?**

21 A: Yes. Nevada Power and Sierra Pacific Power made attempts to exit the energy
22 supply business and become an independent transportation company free from
23 market participant interests. In connection with retail access legislation, Nevada

1 state regulators supported the companies' efforts to sell their generating assets to
2 eliminate market power concerns within the state. However, after the impacts of
3 California restructuring bled into the rest of the region, the Nevada legislature
4 took necessary action to protect Nevada from experiencing further energy price
5 fluctuations. In order to accomplish this, the legislature delayed Nevada's retail
6 competition plans and prohibited the Companies from selling their generation.
7 Even though legislative action was necessary and appropriate under these
8 circumstances, this type of uncertainty places companies in a reactionary position
9 and limits the ability to plan for the future.

10 **Q: Are political and restructuring roadblocks limited to state retail access**
11 **programs?**

12 A: No, transmission providers are also experiencing uncertainty during this
13 transitional stage in the industry. For example, the pricing and congestion
14 management proposals for the western RTOs are not complete. It remains unclear
15 exactly how a transmission owner will recover its investment in existing facilities.
16 Even more uncertain is the ability to recover the construction and related costs of
17 transmission facilities planned during the transition to the RTO, as well as the
18 costs of future facilities constructed after RTOs are fully functioning.

19 **Q: Has the Company started any transmission projects for which cost recovery**
20 **remains uncertain?**

21 A: Yes. Nevada Power Company has broken ground on a new 500kV transmission
22 project. This new project will serve load growth in the Las Vegas Valley and
23 provide transmission service for about 3000MW of new Independent Power

1 Producers' (IPP) generation projects, most of which will be delivered to the
2 regional market. Nevada Power is making every effort to complete construction
3 of the transmission project to ensure the success of the new IPP projects and to
4 bring much-needed resources to the western region. In fact, the timing of this
5 transmission project is driven by the in-service dates of the IPP projects. Nevada
6 Power must secure financing for this project now even though the recovery of the
7 investment remains uncertain.

8 **Q: Please explain how current Commission policy affects cost recovery of**
9 **Nevada Power's transmission project.**

10 A. Under the Commission's current pricing policy, an IPP in the Las Vegas Valley
11 that makes use of this new project would pay the higher of: (1) Nevada Power's
12 embedded rate; or (2) the incremental cost of the new transmission project, in
13 addition to the transmission rates of all other transmission systems used to deliver
14 energy to the final destination (the load). However, the current method of
15 recovering transmission, commonly known as "pancaking", is one that RTOs are
16 trying to eliminate. RTOs are considering pricing proposals that would charge a
17 transmission customer only the transmission rate of the Transmission Owner's
18 system where the load it is serving is located. (This is often referred to as off-
19 ramp or load based pricing.) Under this type of pricing, a transmission customer,
20 (in this example, an IPP) could use the new facilities on a short-term basis without
21 paying Nevada Power for its existing system or for the new transmission facilities
22 that the IPP caused to be constructed. Therefore, Nevada Power is in danger of

1 not recovering the cost of these facilities from the customers that make use of the
2 facilities.

3 Most of these IPPs are very large, well-informed corporations that watch
4 and influence RTO pricing proposals. Some IPPs are now considering executing
5 transmission service agreements with one or two year terms in case the RTO
6 pricing structures allow them to “ride free” on the new transmission assets. But if
7 the RTO pricing proposals are not as favorable as they hope, IPPs may seek to use
8 the transmission customer rollover rights granted by Order 888. This not only
9 shifts all the risk of recovery to Nevada Power, it also makes it almost impossible
10 to plan the next project because transmission service terms are so unpredictable.
11 Meanwhile, in the interest of adhering to Commission requirements of expanding
12 the transmission system to meet customer requests, and in order to foster the
13 development of new generating resources in the western region, Nevada Power is
14 breaking ground, ordering equipment, and obtaining financing for this project.

15 **Q: Has restructuring added new risk in the relationship between federal and**
16 **state jurisdiction?**

17 A: Yes. Approval and recovery of new transmission projects has become more
18 challenging. Transmission was traditionally constructed to accommodate the load
19 and resource growth of the local utility. The state could approve, issue permits
20 and provide recovery in a bundled retail rate. However, Transmission Providers
21 are now required to expand the grid at the request of any eligible transmission
22 customer. This adds more complexity to all levels of the project and blurs cost
23 recovery responsibility. These risks are even more pronounced for a pure-play

1 independent transmission company which has no wholesale or retail energy
2 customers to balance the risk or take advantage of the new transmission capacity.

3 **BUSINESS AND OPPORTUNITY RISKS**

4 **Q: How do business and opportunity risks play against transmission owners?**

5 A: Business risks present many uncertainties for transmission owners.

6 Transmission investment is recovered over a long-term time frame thus
7 (1) increasing the uncertainty of recovery (due to, for example, policy changes,
8 load pattern changes, economic and environmental changes, technological
9 changes, etc.) and (2) decreasing the present value of that recovery.

10 **Q: Do transmission customers present business risks?**

11 A: Yes. Although the demand for transmission is generally continual, this demand is
12 not guaranteed. Sometimes the demand is not even predictable, and thus
13 transmission ownership is marked by uncertainty. Also, there are business risks
14 related to pricing: new transmission customers and their loads will react to
15 transmission pricing and energy pricing policies that are currently undefined and
16 subject to change. Finally, the economy can drastically change load growth
17 patterns which in turn impacts the demand for transmission.

18 **Q: Are there other types of business risks?**

19 A: Yes, companies face risks due to technical obsolescence, i.e., incumbents in a
20 business are usually blind to the fact that their own product or way of providing a
21 service can become obsolete. Hopefully, industry restructuring will encourage
22 new innovative methods for delivering energy, but today there is no substitute for
23 transmission lines and current transmission infrastructure is inadequate. New
24 transmission built today is at risk of becoming a stranded investment as more

1 aesthetically pleasing, efficient, and cost effective solutions are brought to life and
2 perfected. This risk is plausible, concrete and endemic to many industries, as
3 evident in the advancement of wireless telephone service, which is quickly
4 outdating other telecommunications technologies. In addition, transmission
5 investment is often “lumpy” because it is not possible to build only to the size of a
6 new load or generator. This creates additional risk that the costs of an investment
7 may not be recovered, or that recovery may be substantially delayed.

8 **Q: How do improvements for reliability purposes add to a transmission**
9 **company’s risk?**

10 A: It is critical that a transmission provider undertake those improvements necessary
11 to ensure the reliability of its system. Though necessary, these investments may
12 not be fully utilized, thus limiting the ability to earn the full return on the
13 investment in such improvements for a sustained period. Moreover, these
14 investments often will not have transmission rights associated with them that
15 could be traded or released.

16 **ENVIRONMENT-RELATED RISKS**

17 **Q: What roadblocks related to the environment do transmission owners face?**

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19
20 A: There are four categories of issues related to the environment that make
21 transmission ownership a risky endeavor. They are: (1) societal pressures;
22 (2) aesthetic issues; (3) regulatory approval system; and (4) environmental law
23 compliance.
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25

1 **Q: Explain “societal pressures”.**

2 A: It is no secret that transmission projects can be unpopular with the public.
3 Unsubstantiated theories and studies add fuel to the fire when they allege that
4 transmission projects are sources of environmental harms. Many articles have
5 been published that allege a relationship linking electromagnetic fields produced
6 by transmission lines to health problems. Although many scientists indicate that
7 there is no significant evidence whatsoever linking transmission lines to health
8 problems, articles such as these incense the public, generating opposition to
9 additional transmission development plans. Therefore, getting permission to
10 build necessary and helpful transmission projects becomes a protracted,
11 expensive, defensive undertaking for proponents.

12 **Q: Describe the next category of environment-related risks: “aesthetic issues”.**

13 A: Not only are projects unpopular, transmission lines are not characterized as
14 pleasant scenery. This affects transmission owners in real ways. Again, public
15 opposition to projects in the right-of-way near the area of interest causes
16 additional time and expense to convince opponents that the project is valuable.
17 Also, there is mounting public pressure to cure the aesthetics issue by positioning
18 facilities underground. Along with increased costs, “undergrounding”
19 transmission lines spawns a whole new set of environmental issues, and new
20 project risks.

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1 **Q: Explain the issues associated with the regulatory approval system, the third**
2 **category of environment-related risk.**

3 A: As the Commission is aware, there are multiple levels of regulatory approval for
4 transmission projects. The quantity of federal, state and local agencies involved
5 in permitting a transmission line is often staggering. Project proponents must
6 frequently obtain permission from multi-state, city, county, Native American land
7 authorities, and private land owners. Multiple federal land management agencies
8 such as the United States Forest Service, the Bureau of Land Management, Army
9 Corps of Engineers (for wetland permits), and the United States Fish and Wildlife
10 Service are often involved.

11 **Q: How does the regulatory approval system translate into higher risk?**

12 A: Obviously, the costs to obtain the permits and to comply with the multiple
13 permitting requirements are considerable. Transmission owners are well aware
14 that the task of obtaining permission from multiple entities means that a project
15 can all too often be sent back to square one. "One strike and you're out!" and
16 "One change and you must start over!" are notions that are never far from the
17 minds of applicants.

18 In addition, the permitting process frequently turns into a protracted
19 venture. It can -- and often does -- take years for a project to weave its way
20 through the regulatory scheme, if it weaves its way through at all. This creates
21 uncertainty concerning the viability of the project, as well as additional costs in
22 the form of construction delays and regulatory and legal expense.

23

1 **Q: Can you provide an example?**

2 A: Sierra built one of the last major transmission projects to be constructed in the
3 western interconnection. The Alturas Project is a 163 mile 345kV line that runs
4 from Alturas, California to Reno, Nevada. The Alturas Project provides vivid
5 examples of how the regulatory process presents risks to transmission project
6 sponsors.

7 Sierra first presented the Alturas Project to the Public Utility Commission
8 of Nevada (“PUCN”) in 1992 and received authorization from the PUCN to
9 conduct a thorough evaluation of the project in December of that year. Sierra
10 reached an agreement with the PUCN and the Consumer Advocates Office to
11 spend almost \$700,000 to analyze alternative line routes. In November 1993, full
12 resource planning approval was received, and Sierra immediately filed
13 applications with the Bureau of Land Management (“BLM”) and US Forest
14 Service and the California Public Utilities Commission (“CPUC”) to commence an
15 environmental review process. The BLM and the CPUC became the federal and
16 state lead agencies respectively for the project and the project was on schedule to
17 be in-service as required by the northern Nevada load growth by 1996.

18 Sierra worked in parallel with state, federal and local agencies to obtain
19 permits and satisfy any public concerns. The draft Environmental Impact
20 Statement (“EIS”) was issued in March of 1995, and the final EIS was issued in
21 November of 1995. By February 1996, Sierra had obtained approval from the
22 BLM, the lead federal agency and the CPUC, the lead state agency. In order to
23 meet the critical in-service date of late 1996, Sierra began ordering long lead time

1 equipment such as a phase shifting transformer with an 18-month lead time in the
2 Spring of 1995. (Sierra waited as long as possible to procure material in order to
3 minimize carrying costs without missing the planned late-1996 in-service date.)

4 However, in February of 1996, the Humboldt Toiyabe National Forest
5 Service (“HTNF”) selected a “no-action” alternative for the eight miles of
6 transmission line that would cross Forest Service land, alleging that the EIS did
7 not satisfy the Forest Service regulatory requirements. The HTNF issued this
8 decision in direct conflict with the decision issued by the BLM, the lead federal
9 agency overseeing preparation of the EIS. In the meantime, Washoe County (“the
10 County”) informed Sierra and the PUCN that it had previously erred by informing
11 Sierra that a special use permit from the County would not be required. Sierra
12 immediately filed for the special use permit with the County and obtained that
13 permit on April 30, 1996. Sierra then set out for its final local approval in the
14 State of Nevada by requesting a hearing before the Truckee Meadows Regional
15 Planning Commission (“Planning Commission”). At the May 22, 1996 hearing
16 the Planning Commission issued a no-action decision citing the need for
17 resolution of the Forest Service permit first.

18 In order to gain Planning Commission approval and resolve the impasse
19 with the Forest Service, Sierra re-routed 12 miles of the project and with that one
20 change started over. Sierra went back through all the local approval processes. It
21 was not until May 1997 that all regional and local planning approvals were
22 received.

1 The 12-mile re-route necessary for obtaining local approval removed all
2 but 3,100 feet of the eight miles of project from the Humboldt Toiyabe National
3 Forest so Sierra withdrew its application for approval from the HTNF in February
4 1997 (now several months beyond the planned in-service date of the project.)
5 However, in January 1997, the Modoc National Forest (“MNF”) entered the
6 scene, requesting a supplemental EIS before it would issue its record of decision.
7 In March or April of 1997 the Counsel of Environmental Quality advised the
8 MNF that its interpretation of NEPA was incorrect and that a supplemental EIS
9 was not required. From April of 1997 through January 1998, Sierra answered
10 several data requests from the MNF and requested assistance from the Deputy
11 Chief of Staff of the Forest Service to resolve the matter.

12 Sierra received its final permit in January 1998 and started construction of
13 the project in February 1998. The project was fully constructed in only ten
14 months following over four years of environmental review and siting approvals.
15 The Alturas Intertie was projected to cost 120 million dollars. Due to the
16 regulatory and permitting delays, the project cost exceeded this cost by 35 million
17 dollars. The project was two years late, forcing Sierra to operate at emergency
18 status throughout the summer of 1998, narrowly missing widespread outages in
19 northern Nevada. Even today there are still pending regulatory issues related to
20 this project that have not been resolved.

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1 **Q: Are there other ways in which the regulatory approval system presents**
2 **risks?**

3 A: Yes. Within the federal government, many agencies must approve projects, and
4 there may be inadequate authority granted to a lead agency. If a dispute arises
5 between “cooperating” federal agencies, then the applicant is placed in a
6 minefield of internal agency chains of command, making it difficult and time
7 consuming to reach consensus. Furthermore, there is currently no useful remedy
8 or dispute resolution process in the regulatory setting if the agencies disagree on
9 the final approval/denial/conditions of a project.

10 **Q: Briefly summarize the fourth risk category, i.e., issues concerning**
11 **compliance with environmental laws.**

12 A: The core environmental issues associated with construction projects are the
13 protection of endangered species, wildlife, and other environmental resources.

14 **Q: Can you provide an example of how compliance subjects transmission**
15 **owners to greater risk?**

16 A: Yes, returning to the Alturas Project, the Company faced environmental issues
17 which added additional time and unexpected cost to the project. Sierra was
18 required to fund about 12 inspectors every day of the construction period on
19 behalf of the agencies overseeing construction of the project. During the 10-
20 month construction period, these inspectors issued over 7,000 environmental
21 inspection reports. The subject of these reports included incidences such as the
22 soil being depressed over 3 inches (during an El Niño rainstorm) and the

1 discovery of three corn chips on the construction site. There were also strict
2 requirements placed on construction crews.

3 **TIMING RISKS**

4 **Q: Explain “timing risks”.**

5 A: Timing is critical to the success of a project. Ideally, transmission projects are
6 financed when the economic environment is favorable and after all regulatory and
7 environmental approvals and permits have been obtained. But if a transmission
8 project proponent waited for a confluence of favorable factors, the project would
9 never get built, and demands of transmission customers (new generators, new
10 industrial loads, residential load growth) would never be fulfilled. Therefore, a
11 transmission owner must take on the risk of obtaining financing before all
12 approvals are in hand.

13 **Q: Are there other risks that fall in this category?**

14 A. Yes. Transmission requires expensive, sometimes customized, equipment with
15 long lead times. For a project to be in-service when required, transmission project
16 owners must sometimes order this equipment before all approvals are received or
17 transmission service agreements are in place. But when permits are held up or not
18 even issued, project sponsors are then left with sunk, often unrecoverable costs.
19 Furthermore, timing can affect the financing of a project. Transmission owners
20 are at risk even after ground is broken because their projects usually span large
21 geographic areas, increasing the probability of encountering a conflict with a
22 regulatory agency, private land owner, etc. If such a problem is encountered
23 during construction, it could cause re-routing. This results in changes in

1 equipment and in the project itself -- and consequently results in modifications to
2 the financing requirements, and the cost of the project, thus delaying the date that
3 service and cost recovery can begin.

4 **BENEFITS OF TRANSCONNECT**

5 **Q: What are the benefits of TransConnect?**

6 A: TransConnect will have clear and rational economic incentives to plan for and
7 make justified and necessary expansions to the electric transmission grid, and to
8 manage existing transmission assets in a reliable and cost effective manner. With
9 this focus on transmission, TransConnect will bring creative solutions to address
10 transmission shortages in the West. A key advantage of a properly structured,
11 for-profit transmission company will be the ability to attract the capital necessary
12 to fund transmission projects. Perhaps the key variable for attracting this capital
13 will be TransConnect's allowed ROE.

14 **RATE OF RETURN ON EQUITY**

15 **Q: Have you reviewed the other testimony filed in this proceeding?**

16 A: Yes.

17 **Q: What were Dr. Avera's conclusions regarding a fair rate of return on equity
18 for TransConnect?**

19 A: Dr. Avera concluded that the reasonable ROE range for TransConnect is between
20 12.0 and 15.5 percent. Based on his evaluation, Dr. Avera also concluded that
21 TransConnect's relative size, lack of diversification, and the absence of any
22 operating history were all factors that would likely add to the rate of return
23 required by investors. Considering these factors, as well as the economic

1 requirements affecting the determination of an adequate ROE for TransConnect,
2 Dr. Avera concluded (Exhibit 10 at 55-56) that an ROE above the midpoint of his
3 12.0 to 15.5 percent range is reasonable.

4 **Q: In light of that testimony, and the significant risks and uncertainties faced by**
5 **a transmission owner such as TransConnect, what point within Dr. Avera's**
6 **range is TransConnect requesting in this case?**

7 A: Given Dr. Avera's conclusions, and considering the risks described in my
8 testimony, TransConnect is requesting an ROE of 14.5 percent. This point
9 estimate is consistent with the midpoint of the upper end of Dr. Avera's range of
10 reasonableness. An ROE from within the upper end of the range is justified
11 because TransConnect will be a newly formed company without a stand-alone
12 track record. In order to undertake much needed transmission expansion projects,
13 consistent with the goals of this Commission, TransConnect must also be
14 provided a return sufficient for it to attract investors. These projects will require
15 substantial new capital investment, and as discussed in my testimony, there are
16 significant uncertainties that accompany the development, construction, and
17 operation of electric transmission facilities in today's power market. Taken
18 together, these considerations support the reasonableness of the 14.5 percent
19 ROE, especially for TransConnect's initial rates.

20 **Q: Does this conclude your direct testimony?**

21 A: Yes.