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Transmission Agency of Northern California

Credit update following rating affirmation and outlook change to stable from negative

Summary

Transmission Agency of Northern California's (TANC, Aa3 stable) credit assessment reflects the strength of its member participants (estimated A1 weighted average credit quality), the strength of its joint power agreements, its wildfire risk exposure and the assets' strategic importance to fulfilling its members power supply needs. The project maintains strong, stable financial metrics with fiscal year 2019 debt service coverage ratio (DSCR) of 1.71x and strong liquidity with days cash on hand of 697 days.

The rating outlook revision to stable from negative reflects our view of TANC's ability to absorb potential wildfire-related liabilities. The asset, also known as the California-Oregon Transmission Project (COTP), is a 339 mile, 500 kilovolt transmission line that runs from southern Oregon to central California. Approximately 35% of the line is located in elevated or extreme fire risk zones according to the California Public Utilities Commission (CPUC) Fire Threat Map.

The credit profile is somewhat constrained by the level of fixed, legally restricted reserve funds for annual debt, now at 25% of maximum annual debt service compared to the previous 100% of maximum annual debt service prior to the most recent refunding in 2016. Pursuant to the 2009 Amended Indenture, TANC has discretion on how much reserves it will hold on a series by series basis. That said, this risk is mitigated by the substantial level of liquidity at TANC and by the high degree of cash flow predictability that underpins the transmission sector.

Credit strengths

» The average weighted underlying credit quality of the TANC participants is A1

» The asset has significant economic value as a transmission line that connects California utilities to low cost hydroelectric power from the Pacific Northwest, which is increasingly valued for its renewable and carbon free properties

» Standard economic take or pay contracts

» Project operating performance has been sound since inception with high transmission line availability

» Healthy liquidity position as measured by days cash on hand, on a historical and prospective basis

Credit challenges

» Exposed to potential wildfire liabilities as 35% of the line is located in “elevated” or “extreme” fire threat districts and California's use of strict liability in its interpretation of inverse condemnation

» Demonstrated use of weak indenture provisions to reduce debt service reserve funding to 25% of maximum annual debt service from 100% of annual debt service reserve; although risk is mitigated by substantial level of balance sheet liquidity and high cash flow predictability

Rating outlook

The stable outlook reflects the risks associated with the uncertain magnitude of potential contingent liabilities related to inverse condemnation and the nearby wildfires affecting electric utilities in California, as well as the execution risk around the implementation of legislative and regulatory initiatives at the state level that are intended to significantly mitigate these risks.

Factors that could lead to an upgrade

» Improvement of participants' average credit quality

» Legally restricted reserve levels funded at maximum annual debt service in addition to discretionary liquidity over 200 days cash on hand

» Continued maintenance of high availability factors

Factors that could lead to a downgrade

» Incurrence of a large unforeseen liability due to wildfire damage

» Deterioration of TANC participants' average credit quality

» Decline in discretionary liquidity to below 200 days cash on hand

Key indicators

Exhibit 1
TANC's Key Financial Metrics

	2015	2016	2017	2018	2019
Debt Outstanding ($'000)	255,731	244,051	233,358	222,394	214,084
Aggregate Annual Debt Service ('000)	35,696	41,128	18,285	18,242	18,185
Debt Ratio (%)	56.1	61.8	68.3	65.0	64.2
Total Days Cash on Hand (days)	425	517	626	665	688
Fixed Obligation Charge Coverage (x)	1.33	1.09	1.45	1.83	1.71

Source: Moody's Investors Service

Profile

TANC is a joint powers authority (JPA) consisting of 15 Northern California public power utilities. TANC provides electric transmission service to be used by its members. The agency is the majority owner and project manager of the California-Oregon Transmission Project, a 339 mile, 1,600 megawatts (MW), 500 kilovolt alternating current transmission line between southern Oregon and central California that began commercial operations in 1993. TANC has an 86.9% entitlement in the COTP with five other regional participants owning or having rights in the remaining balance of the project. TANC's transmission asset is part of the balancing authority area operated by the Balancing Authority of Northern California.

Pacific Gas and Electric Company (PG&E, Baa3 stable) supplies the agency with 300 MW of firm, bi-directional transmission service over PG&E's system between Tesla and Midway Substations. The South of Tesla (SOT) Agreement sets forth the terms under which the agency renders Tesla-Midway transmission to the participanting members.

Detailed credit considerations

Revenue Generating Base

Strong Participant Credit Quality at A1

TANC's rating is predominantly driven by the A1 weighted average credit quality of its 13 participating members in the COTP. These members make payments to TANC pursuant to Project Agreement No. 3, the principle guiding document that requires each member participant to severally pay for operations, maintenance, capital costs and debt service on a sum-sufficient basis. These members make their payments to TANC as an operating expense, ahead of their respective direct debt obligations (if any).

All of the participating members have the ability to establish rates on an unregulated basis enabling pass through of transmission related costs to their respective customers, a credit strength. TANC participants characteristically offer competitive retail rates, satisfactory financial operations and solid regional economic performance.

Exhibit 2

COTP participants, their respective legal entitlements and Moody's ratings

Project Participants	Legal Entitlement	Moody's Rating
Sacramento Municipal Utility District (SMUD)	27.56%	Aa3
Modesto Irrigation District (MID)	21.30%	A2
City of Santa Clara, CA	20.47%	-
Turlock Irrigation District, CA (TID)	12.54%	A2
City of Redding, CA	8.41%	-
City of Palo Alto, CA	3.68%	Aa2
City of Roseville, CA	2.11%	A1
City of Lodi, CA	1.92%	A2
City of Alameda, CA	1.23%	-
City of Healdsburg, CA	0.25%	-
City of Ukiah, CA	0.19%	-
City of Lompoc, CA	0.19%	-
Plumas-Sierra Rural Electric Cooperative	0.15%	-

Source: Moody's Investors Service; Transmission Agency of Northern California

Several of TANC's member participants under the COTP have entered into Long-Term Layoff Agreements (LTLAs) where the entitlement rights of several small member participants (known as layoff entities) were acquired by Sacramento Municipal Utility District (Aa3 negative), Modesto Irrigation District (MID: A2 stable), and Turlock Irrigation District, CA (TID A2 stable) for 15-25 years. These three districts alone account for 80% of the total entitlement. The smaller member participants forgoing their usage per the LTLAs do not remove their continued legal obligation as per the take-or-pay contract to pay debt service for their originally allocated share of the COTP; however, on a current basis, those entities who acquired a higher share based on the LTLAs are required to pay debt service and operating costs based on their newly allocated share. Our assessment is that the weighted average credit quality of the large member participants (including SMUD, MID, TID, the City of Redding, the City of Santa Clara and the City of Roseville) has remained stable in recent years.

California-Oregon Transmission Project has Long-term Economic Value to TANC Participants

While the fundamental rating is driven by the participant credit quality, the long-term economic value of the COTP to TANC participants is an important additional credit consideration. The COTP links low-cost hydroelectric resources from the Pacific Northwest with central California. COTP has been in commercial operation and has maintained a high availability record since March 17, 1993. TANC participants benefit from wholesale market purchases of energy and bilateral contracts with Bonneville Power

Administration (Aa1 negative); City of Seattle WA Electric Enterprise (Aa2 stable) and several other Pacific Northwest utilities. The project is operated in coordination with the Pacific AC Intertie as part of the 4,800 MW California-Oregon Intertie. Almost 20% of northern California's peak load can be served by this intertie.

The economic value of the COTP cannot be overstated. The replacement cost estimates to build a new transmission line in California to replicate COTP are far in excess of the current debt outstanding. Further, the difficulty in siting and building new generation in California heightens the value of this transmission line and enables member participants to enjoy low cost power from the Pacific Northwest and avoid paying higher CAISO tariffs.

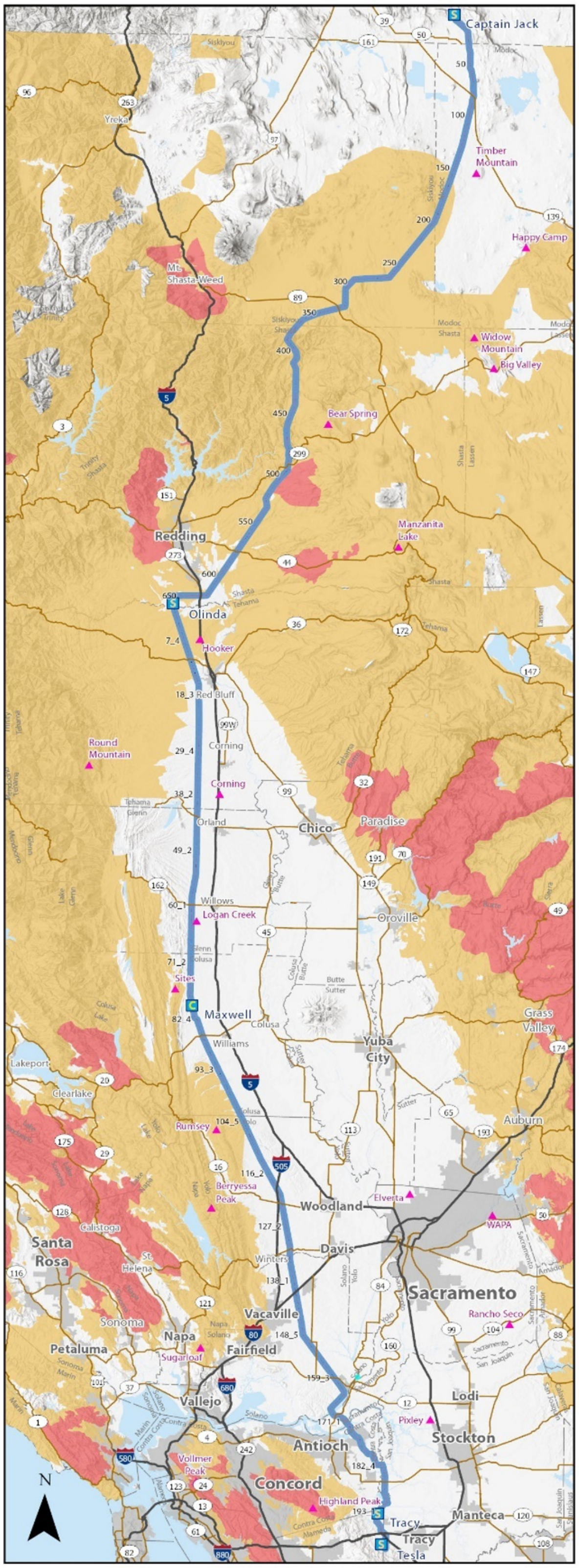
TANC has elevated exposure to wildfires

We view TANC as having elevated exposure to wildfire risk as the 340 mile transmission line traverses through PG&E's service territory with roughly 34% of the land area within 'elevated' Tier 2 fire risk zones and 1% located in 'extreme' Tier 3 fire risk zones identified on the CPUC Fire Threat Map (see Exhibit 3).

The agency employs an extensive wildfire mitigation plan to mitigate its exposure that includes semiannual aerial inspections; a rigorous vegetation management program; as well as limiting crops and vegetation height in orchard areas. The COTP line is also constructed entirely of steel lattice or single pole steel structures and the agency maintains a 200-foot right-of-way around transmission line that is kept clear of trees and large vegetation. TANC has also formed a wildfire advisory committee to ensure compliance with recently enacted laws, strengthen existing practices and monitor relevant legislative and regulatory activities.

TANC maintains $35 million in wildfire insurance and it is not the subject of any pending litigation on wildfires or inverse condemnation. TANC has disclosed that its insurance premiums have significantly increased in recent years and it has not purchased any additional insurance because it is uneconomic at this time.

Exhibit 3
TANC traverses elevated and extreme wildfire areas



COTP High Fire Threat Districts - CPUC Tier 2 and Tier 3

Right of Way (ROW) Widths

Transmission Line	Width	Towers
Captain Jack - Olinda (TANC Line)	200 ft.	all
Olinda-Tracy - to Sacramento River	125 ft.	Olinda - 167_2
Olinda-Tracy - to Sacramento River	200 ft.	167_2 - 167_3
Olinda-Tracy - to Sacramento River	800 ft.	167_3
Olinda-Tracy - Sacramento River to Tracy	200 ft.	167_3 - Tracy Sub
Tracy-Tesla (TANC Line)	200 ft.	all

Towers Intersecting Tier 2

Begin Tower	End Tower	Miles
158	500	78
524	581	13.9
594	605	3.2
619	657	8.4
0_1	0_3	0.7
1_1	2_3	1.6
3_2	13_1	10.1
15_4	15_5	0.4

Towers Adjacent to Tier 3

Begin Tower	End Tower	Miles
501	523	4.5

Threat Summary

Threat Totals	Miles	Percent
COTP Total Miles	339	
Tier 2 Threat	116.3	34.3%
Tier 3 Threat	4.5	1.3%

COTP Infrastructure

- COTP ROW
- Substation
- Compensation Station
- Microwave Comm. Site

CPUC Fire Threat

- Tier 2 - Elevated Risk
- Tier 3 - Extreme Risk
- Urbanized Area

0 10 20 40 Miles

Scale: 1:1,850,000

Note: The width of ROW shown on map is significantly exaggerated so it can be viewed at this scale. Tower Numbers (i.e. '250', '71_2') are indicated to the left of the ROW. Approximately every 50 towers are labeled.

Sources: Tier 2 / Tier 3 fire threat levels from California Public Utilities Commission, 2018. For more information visit http://www.cpuc.ca.gov/firethreatmap

Source: TANC, CPUC

Operational and Financial Performance

Debt service coverage for TANC is ultimately structured to achieve sum-sufficient coverage, which is on the low-end for Aa3-rated entities. On an audited basis after accounting for timing differences from member billings, TANC generally achieves DSCRs comfortably above 1.0x. Positively, TANC can establish its rates and charges without state regulatory board approval if needed. Fiscal year 2019 debt service coverage was 1.71x and the agency held $36 million of unrestricted cash on its balance sheet or 697 days cash on hand.

As noted above, the 2014 LTLA provides for the assignment of all rights and obligations of the layoff members' entitlements to the acquiring members: SMUD, MID, and TID. These LTLAs that allow for SMUD, MID, and TID to increase their share of the line is viewed positively from a credit perspective and reflective of the flexibility inherent in the operating agreements as they allow for a mechanism to transfer power where it may be more efficiently and cost-effectively deployed.

LIQUIDITY

Pursuant to its 2009 Indenture, TANC has discretion over the funding of reserves on a series by series basis. For the 2016 refunding bonds, TANC has elected to fund the debt service reserve at 25% of maximum annual debt service, a credit weakness.

While TANC currently has a healthy cash position with over 600 days cash on hand, this liquidity as measured by days cash on hand is likely to decline over time given its more discretionary use. That said, we recognize the limited operating risks associated with a transmission asset and acknowledge TANC's commission has an objective to maintain at least 180 days cash on hand on an all cash needs basis, which includes debt service and capital expenses.

DEBT STRUCTURE

As of June 30, 2020, TANC had about $172 million in outstanding revenue bonds. As part of the 2016 refunding, TANC extended its existing debt to mature in 2039, 15 years beyond the original stated maturity of 2024. Annual debt service requirements for the revenue bonds are about $15.2 million.

DEBT-RELATED DERIVATIVES

TANC no longer has any debt related derivatives following the issuance of the Series 2016A bonds.

PENSIONS AND OPEB

The financial impact of unfunded and OPEB obligations of this issuer are minor and thus not currently a major factor in our assessment of its credit profile.

Management and Governance

TANC is a joint action agency currently consisting of 15 members, 13 of which participate specifically in COTP. Each participating member pays for all costs associated with the operation of TANC and is entitled to its respective Participation Percentage of TANC's transfer capability in the project.

Transmission Agency of Northern California's board is comprised of one commissioner from each member utility. There are no staff employed by the agency, however the agency has a contract with a general manager who is responsible for the day-to-day management and operations of the agency. SMUD serves as the agency's treasurer and controller.

Legal Security

The bonds are principally secured by the pledge of TANC's revenues, which are primarily derived from a take-or-pay arrangement under Project Agreement No. 3. Each member participant severally agrees to pay TANC its respective participant share of TANC project debt service including TANC project costs, TANC O&M costs and TANC Capital Improvement costs and that these funds are paid as an operating expense of each member participant. The security is also supported by a 25% step-up requirement to support any defaulting member. All project fund accounts, including reserve accounts also act as security for bondholders. TANC's debt service reserve account under the 2016 bonds are funded at 25% of maximum annual debt service.

The bonds are authorized by the Indenture of Trust and by Articles 10 and 11 of Chapter 3 of Division 2 of Title 5 of the Government Code of the State of California. Payments under the take-or-pay contracts are required even if the project is inoperable or terminated. The contracts have not been tested in state courts but the participants have authorization as electric utilities to enter into the transmission contracts pursuant to the state's Constitution or a city's Home Rule Charter.

Rating methodology and scorecard factors

The grid indicated outcome is in line with TANC's assigned rating.

The grid is a reference tool that can be used to approximate credit profiles in the U.S. Municipal Joint Action Agencies sector in most cases. However, the grid is a summary that does not include every rating consideration. Please see U.S. Municipal Joint Action Agencies Rating Methodology for more information about the limitations inherent to grids.

Exhibit 4

US Municipal Joint Action Agencies

Take-or-Pay Projects

Factor	Subfactor/Description	Score	Metric
1. Participant Credit Quality and Cost Recovery Framework	a) Participant credit quality. Cost recovery structure and governance	A1	
2. Asset Quality	a) Asset diversity, complexity and history	Aa	
3. Competitiveness	a) Cost competitiveness relative to market	Aaa	
4. Financial Strength and Liquidity	a) Adjusted days liquidity on hand (3-year avg) (days)	Aaa	660
	b) Debt ratio (3-year avg) (%)	A	64.0%
	c) Fixed obligation charge coverage ratio (3-year avg) (x)	A	1.67
Notching Factors		Notch	
	1 - Contractual Structure and Legal Environment	0	
	2- Participant Diversity and Concentration	0	
	3 - Construction Risk	0	
	4 - Debt Service Reserve, Debt Structure and Financial Engineering	-0.5	
	5 - Unmitigated Exposure to Wholesale Power Markets	0	
Scorecard Indicated Outcome:		Aa3	

Source: Moody's Investors Service

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