

WECC Path Catalog #31. TOT 2A

Revised November 2007

Location:	Extreme Southwest Colorado								
Definition:	Sum of the flows on the following transmission lines: <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;"><u>Line</u></td> <td style="text-align: center;"><u>Metered End</u></td> </tr> <tr> <td>Hesperus-San Juan 345-kV</td> <td>San Juan</td> </tr> <tr> <td>Hesperus-Glade Tap 115-kV</td> <td>Glade Tap</td> </tr> <tr> <td>Lost Canyon-Shiprock 230-kV</td> <td>Shiprock</td> </tr> </table>	<u>Line</u>	<u>Metered End</u>	Hesperus-San Juan 345-kV	San Juan	Hesperus-Glade Tap 115-kV	Glade Tap	Lost Canyon-Shiprock 230-kV	Shiprock
<u>Line</u>	<u>Metered End</u>								
Hesperus-San Juan 345-kV	San Juan								
Hesperus-Glade Tap 115-kV	Glade Tap								
Lost Canyon-Shiprock 230-kV	Shiprock								
Transfer Limit:	<p><u>North to South:</u> 690 MW minus net load in the Montrose-Curecanti-San Juan-Shiprock area of southwest Colorado. The load itself ranges 110-220 MW, and internal thermal generation can be 100 MW and hydro generation can be 15 MW. However, the maximum rating is 690 MW.</p> <p><u>South to North:</u> Not defined</p> <p>Depending on local load and generation levels, the real-time rating ranges between a maximum of 690 MW and a minimum of 550 MW. Typically, the real-time rating centers around 650 MW.</p>								
Critical Disturbance that limits the transfer capability:	The critical disturbance is the outage of the 345-kV system between Montrose and San Juan. The limiting elements are low voltages or emergency overloads on the local 115-kV system, or emergency overloads on local 230/115-kV or 345/115-kV transformers. The specific outage and limiting element depend on load levels and generation patterns.								
When:	The rating was established jointly by Colorado-Ute Electric Association (CUEA) and Western Area Power Administration (WAPA)-Montrose, in 1989.								
System Conditions:	This rating is independent of transfer levels between major areas of WECC although the actual flow is heavily impacted by inadvertent flow. The transfer limit is impacted by local area generation and load levels. Historically, the flows have been predominately north to south across the path, although flows south to north have been recently experienced.								
Study Criteria:	<p>(Summary)</p> <p><u>System intact:</u></p> <ul style="list-style-type: none"> • Per unit (p.u.) voltages between 0.95 p.u. and 1.05 p.u. • All lines and transformers loaded to less than continuous rating. <p><u>Single contingency outage conditions:</u></p> <ul style="list-style-type: none"> • Per unit voltages between 0.90 p.u. and 1.10 p.u. • All lines loaded to less than 15-minute emergency ratings. • All transformers loaded to less than 30-minute emergency ratings. • Transient voltage swings down to 0.7 p.u. permitted. 								



For more information:

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