PJM Generator Interconnection Request
Queue #L09
Montour #1 230kV
Feasibility/Impact Study Report

June 2004
264924

Montour Unit #1 Impact Study

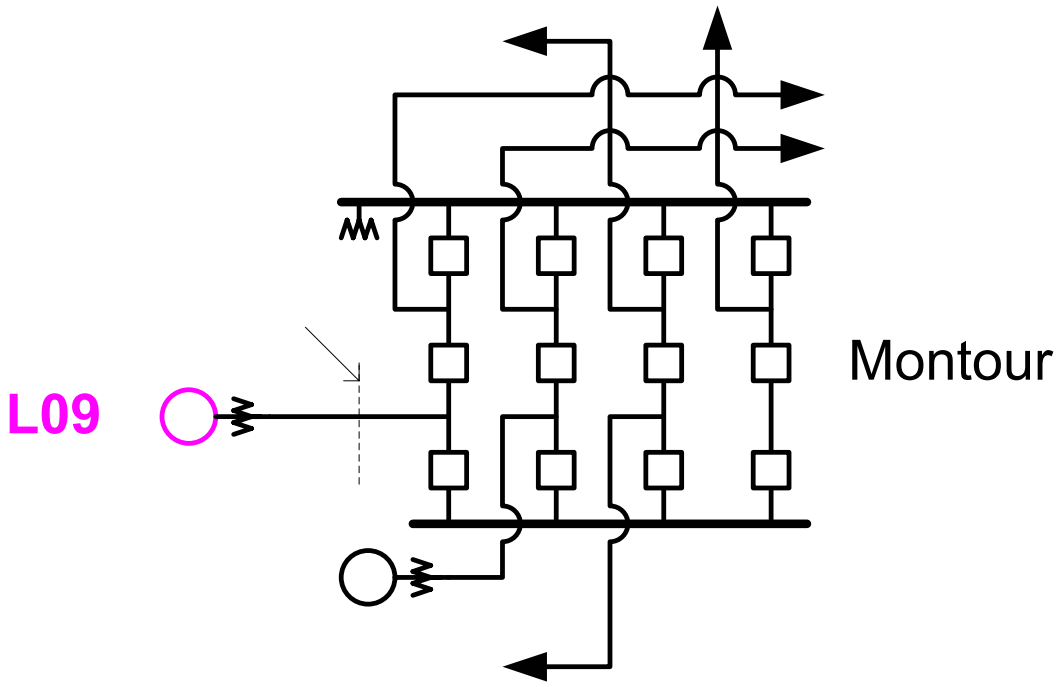
General

PP&L, Inc has an existing 759 MW generator, Montour #1, that is interconnected to the Montour 230 kV substation. The proposal is to increase the capacity of this unit by 2 MW to a total of 761 MW. The projected completion date of the 14 MW increase is June 1, 2001.

The intent of this study was to determine if the 2 MW addition would require any reinforcements to maintain the reliability of the PJM system.

Direct Connection

The existing direct connection is adequate to support the additional 2 MW or the total plant output of 759 MW. See single-line-diagram below.



Network Impacts

No network upgrades are required for the interconnection of an increase of 14 MW to Montour Unit #1, project A32.

The system, as planned, was evaluated for compliance with reliability criteria. The results are summarized below.

Normal System
No identified problems at peak load conditions.

Single Contingency (MAAC Criteria IIA)
No identified problems at peak load conditions.

Second Contingency (MAAC Criteria IIB)
No identified problems at peak load conditions.

Multiple Facility Contingency (MAAC Criteria IIC)
No identified problems at peak load conditions.

Generator Deliverability
No identified problems at peak load conditions.

Stability (MAAC Criteria IV)
No identified problems at light load conditions. Evaluation done for the 14 MW increase at queue position A32 to unit #1 and at A33 for unit #2 remains valid.

See Attachment #1 for a listing of the fault cases evaluated.

CETO/CETL (MAAC Criteria III / VIIB)
No identified problems at peak load conditions.

Short Circuit Analysis
No identified problems.

Attachment #1

Montour Projects A32/33
2004 Light Load Stability Faults

Breaker Clearing Times (cycles)

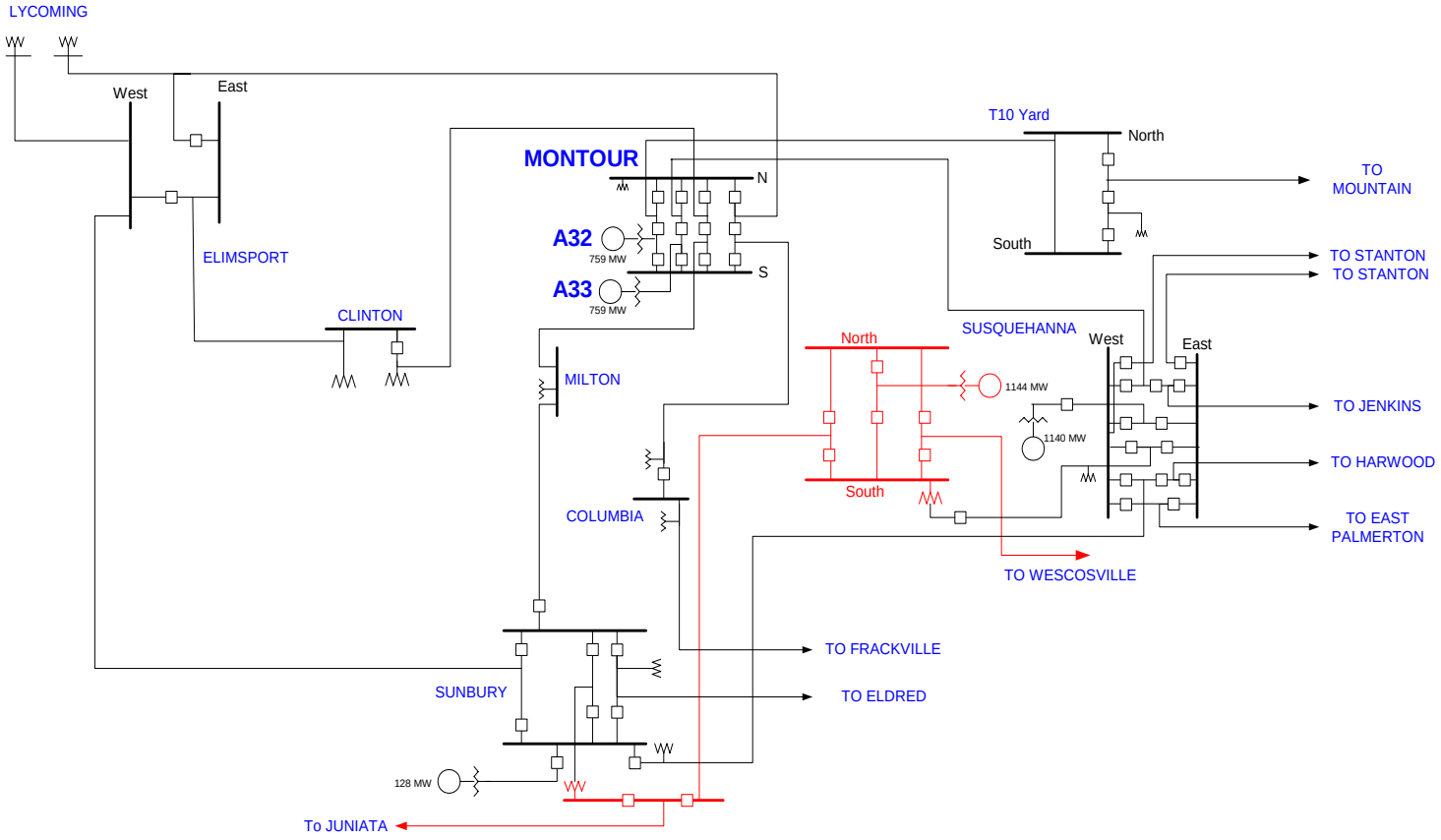
Station	Primary (3ph/slg)	Stuck Breaker Timer (total)
Montour	4/5	12
Susquehanna 230	4/5	12
All Other 230	7/8	17
All 500kV	3.5	N/A

ALL FAULTS ARE STABLE

a32-1a 3ph @ Montour on Montour – Susquehanna T10 230 kV
a32-1b 3ph @ Montour on Montour – Susquehanna 230 kV
a32-1c 3ph @ Montour on Montour – Clinton 230 kV
a32-1d 3ph @ Montour on Montour – Elimsport 230 kV
a32-1e 3ph @ Montour on Montour – Sunbury 230 kV
a32-1f 3ph @ Montour on Montour – Columbia 230 kV

a32-2a slg @ Montour on Montour – Susquehanna T10 230 kV, stuck at Montour (L/O Montour North Bus)
a32-2b slg @ Montour on Montour – Susquehanna 230 kV, stuck at Montour (L/O Montour North Bus)
a32-2c slg @ Montour on Montour – Clinton 230 kV, stuck at Montour (L/O Montour-Sunbury 230 kV)
a32-2d slg @ Montour on Montour – Elimsport 230 kV, stuck at Montour (L/O Montour-Columbia 230 kV)
a32-2e slg @ Montour on Montour – Sunbury 230 kV, stuck at Montour (L/O Montour-Clinton 230 kV)
a32-2f slg @ Montour on Montour – Columbia 230 kV, stuck at Montour (L/O Montour-Elimsport 230 kV)

a32-3a 3ph Bus Fault @ Sunbury 500kV
a32-3b slg @ Montour 230 kV on Montour – Susquehanna 230 kV double circuit tower
a32-3c slg @ Susquehanna 230 kV on Susquehanna – Harwood 230 kV double circuit tower


LYCOMING
West
East
ELIMSPORT
CLINTON
MONTOUR
N
S
A32
759 MW
A33
759 MW
MILTON
COLUMBIA
SUNBURY
128 MW
To JUNIATA
T10 Yard
North
South
TO
MOUNTAIN
TO STANTON
TO STANTON
SUSQUEHANNA
North
South
1144 MW
1140 MW
West
East
TO JENKINS
TO HARWOOD
TO EAST
PALMERTON
TO WESCOSVILLE
TO FRACKVILLE
TO ELDRED