

**Department Of Energy
Western Area Power Administration
Recent Miles City Converter Station (MCCS) Outages**

Date	Time	Summary of Dispatcher Log Entry
02/15/06	1250	Miles City Converter Station personnel reported they had detected the failure of 2 thyristors in one of the valves. Since that valve already had 2 failed thyristors, the MCCS would have to be removed from service as soon as possible for replacement of that valve. The MCCS was removed from service at 1429, and a Clearance was placed on the valve hall to replace the valve. The work was completed and the Converter station returned to normal service at 1651.
02/08/06	0430	NDA reports MCCS tie cooling problem repaired and ready to head back up. Five curtailed schedules reloaded effective 0500.
02/08/06	0237	Miles City Converter Station (MC4) - Received East Dynamic Over Voltage (DOV) device trouble, transformer KV64A trouble and Valve Cooling System Trouble. A converter technician was contacted to investigate. He found a shorted cooling fan motor on KV64A that caused the alarms. This limits the Converter to 100 megawatts East-West until the cooling problem is rectified, and a reduction of 30 megawatts was requested. Transformer cooling was restored and all alarms cleared at 0425, returning the Miles City DC Converter Station to normal.
01/15/06	0933	Miles City Converter Station (MCCS) tripped by Bonneville Power Administration (BPA) remedial action scheme (RAS). NDA notified Northwestern Energy (NWMT), who will contact BPA for permission to resume operations. BPA had Taft-Bell 500kV line relay and lock out. MCCS was returned to service at 0942, after permission from BPA to resume operations.
12/07/05	2054	MCDC tie back on line E to W. Schedules reloaded across 2100.
12/07/05	1925	Maintenance personnel were called out to investigate abnormal alarms for Miles City Converter Station (MCCS) on West transformer KV84A, Smoothing Reactor KX65A and West Dynamic Over Voltage (DOV) Device troubles. Investigation found station service off and valve cooling off. NDA shut down MCCS at 2010 to protect thyristors from over heating. At 2049 station service was restored and at 2051 control power was restored to KV84A. NDA operated KV84A to tap 1 and at 2054, restarted MCCS and ramped to 30MW East to West. Station service went out due to a shorted cooling fan on KV84A. Then the motor controllers tried to switch to different power sources and resulted in taking out about 1/2 of control power.
10/05/05	2000	Normal scheduling was resumed across the MCCS for HE 2100 ufn.
10/05/05	1518	Curtailed schedules (East to West Schedules) across the MCCS for HE 1700 thru 1900 due to E Mont/W ND system conditions.
10/05/05	1501	Miles City Tie in service and going west to east.
10/05/05	1414	Curtailed schedules across the MCCS for HE 1600 as tie off line due to E Mont/W ND system conditions.
10/05/05	1310	Curtailed schedules across the MCCS for HE 1500 as tie off line due to E Mont/W ND system conditions.
10/05/05	1215	Curtailed schedules across the MCCS for HE 1400 as tie off line due to E

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		Mont/W ND system conditions.
10/05/05	1115	Curtailed schedules across the MCCS for HE 1300 as tie off line due to E Mont/W ND system conditions.
10/05/05	1054	Miles City Tie relayed off line snubber over load. At 1100 the east yard was used for voltage control and at 1501 was restored to service with a west to east schedule to support the east system due to severe storm.
10/05/05	1047	A cascading line trip on the West caused a no load situation on the Miles City Tie. UGPM was notified to cut schedule going west across the tie. Loveland was notified that we had no energy flowing across the tie. Hydro and Steam generation was curtailed to stabilize the East.
10/04/05	1032	Miles City DC tie was inadvertently tripped off line. Western field personnel reported that they were in the process of installing a new set of relays on the Miles City terminal of the Miles City – Custer 230kv when they got on the wrong set of relays with test equipment. Miles City tie was restored to service at 1036.
09/21/05	1629	System Protection Personnel were given permission to, and removed fuses at Miles City Converter Station (MCCS) for the 21/21G, Set “A” relays protecting the Custer (CU) 230kV line terminal, to make preparations for the removal and replacement of the 21/21G, Set “B” relays with a new SEL 421 relay package. When the above fuses were removed, the MCCS tripped while operating West-East at 40 megawatts. It was determined that the fuses were labeled incorrectly and they had actually pulled fuses for the set “B” relays, which were in service at the time, and tripped the MCCS by loss of potential. The fuses were reinstalled and the MCCS restarted at 1631. Equipment labeling was corrected.
09/19/05	1226	Miles City Converter Station (MCCS) tripped by operation of West Bus Lockout relays W86BS1 and W86BS2 while operating East-West at 175 Megawatts. The trip was caused when system protection personnel inadvertently shorted the wrong Current Transformer (CT) while working to remove some metering from the set “B” line relays associated with the Miles City (MC3) terminal of the MC3-Custer (CU) 230kV line. These set “B” relays had been removed from service at 1215, after approval from NDA dispatch. The CT circuits were returned to normal, the lockout relays reset and the MCCS returned to service at 1258. The above work was being done to prepare for replacing the set “B” line relays on the MC3 terminal of the MC3-CU 230kV line.
06/21/05	0840	The Baker (BK) – Bowman (BOW) 230kV line relayed to automatic recloser lockout, de-energizing the Little Missouri (LMO) substation and associated customer loads. The line was successfully test energized from Baker at 0842, restoring the LMO substation and customer loads, but the Miles City AC-DC-AC converter station (MCCS) tripped off-line by DC Harmonics when the line was energized, while transferring 50 MW West-to-East. The BK – BOW line was returned to normal service at 0843 after the BOW terminal was closed and MCCS was returned to normal at 0846. There was a thunderstorm in the area at the time.
06/17/05	0028	Miles City-Custer 230kV line relayed, tripping the MC4 at 110 MW East to West and interrupting 2 MW of Rosebud Creek loads. At 0030, CU 182 closed restoring service to RK. Severe weather in area with a great amount of lightning.

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		Upon tripping of the Miles City Converter (MCCS), the available DC reactor KZ2A did not close in auto. The event "MC4 Dawson County reactor breaker close TT sent" operated, however breaker 3222 at DC did not close. At 0356, MCCS back on line.
06/01/05	1536	Miles City Converter tripped off with 55 MW E>W due to BPA remedial action scheme. The Converter was restarted at 1540. It was later reported that the RAS scheme operated due to the Taft-Dworshak 500kV line relaying out at 1436 MDT.
04/07/05	1110	Miles City Converter Station tripped by lockout relays 86DCB1 and 86DCB2, initiated by the fire protection system. Loading on MCCS at the time was 79 MW East to West. MCCS restored at 1127, and tripped again by the same cause and protection at 1136. MCCS was restored at 1158 without further incident. Reports indicate fire protection system was activated from cleaning liquid over spray near a detector.
02/08/05	0004	Miles City Converter Station (MCCS) tripped by east bus differential lockout relays E86B1 and E86B2 (redundant lockouts), initiated by the east bus differential relay E87B, prior loading was 168 MW east to west. Western forces notified and responded. Inspection/investigation determined cause for differential relay operation as failure of the circuit switcher 5684 to open properly, when automatic switching was in progress. MCCS was restored at 0143 and released for normal operation at 0152. The combination switch 5684 is in service and closed with automatic control disabled until repaired.
01/20/05	0804	Miles City Converter Station was shutdown and a Clearance issued to replace failed thyristor valves. MCCS was returned to service at 1131.

Note 1: All times are in Central Prevailing Time.

Note 2: The data above is posted manually on a periodic basis (and as such may not be up to date at all times).

End of Report