IDC Regional Congestion Management Training Document *May 2006*

CO-154: Firm Redispatch Credit

Background

Currently, the NERC TLR process and IDC does not allow for proactive redispatch to be credited to a market entity when in a TLR 5A. This Change Order is intended to allow a Market Control Area to receive credit for proactive redispatch when in a TLR 5A.

Similar to the NNL credit functionality provided in the NNL Change Order 70, this Change Order would provide a Reliability Coordinator the ability to specify amounts of redispatch being provided proactively by a Market Control Area when in a TLR 5A.

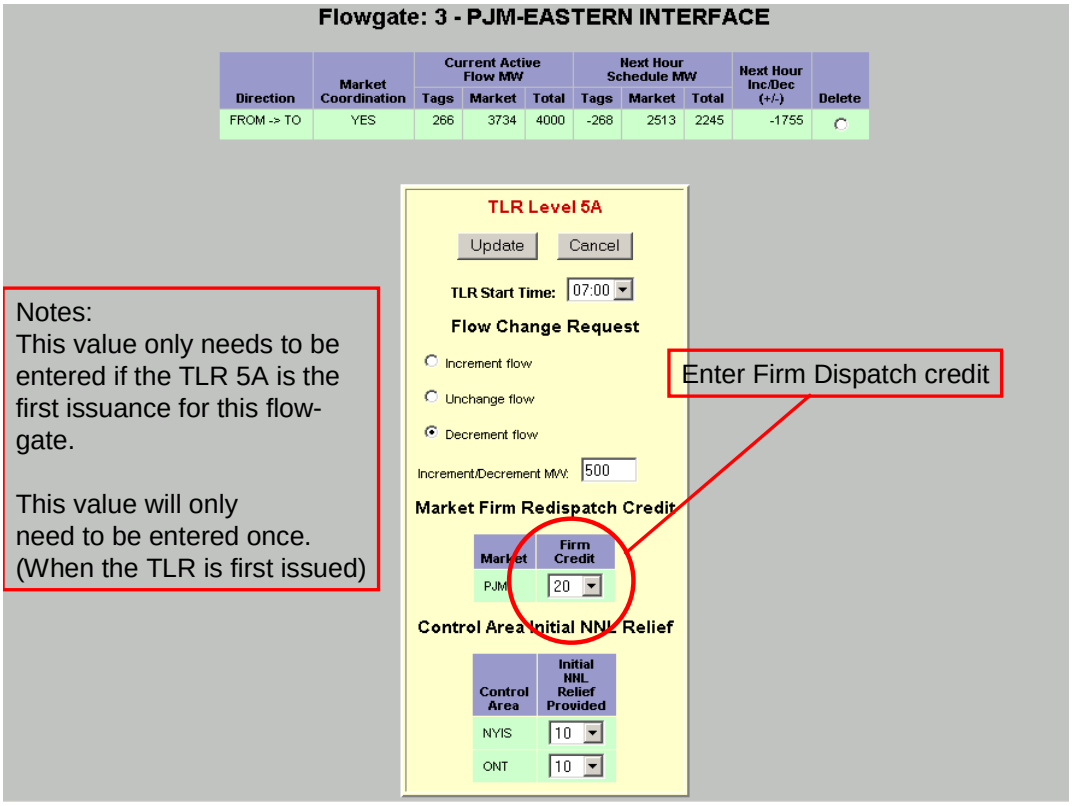
This functionality will be available for any TLR Level 5A or 5B** in which the issuance is the FIRST TLR issuance in a TLR Event that is greater than Level 1. If the issuance of the Level 5A comes after a Level 2 or higher during the event the functionality should not be available.

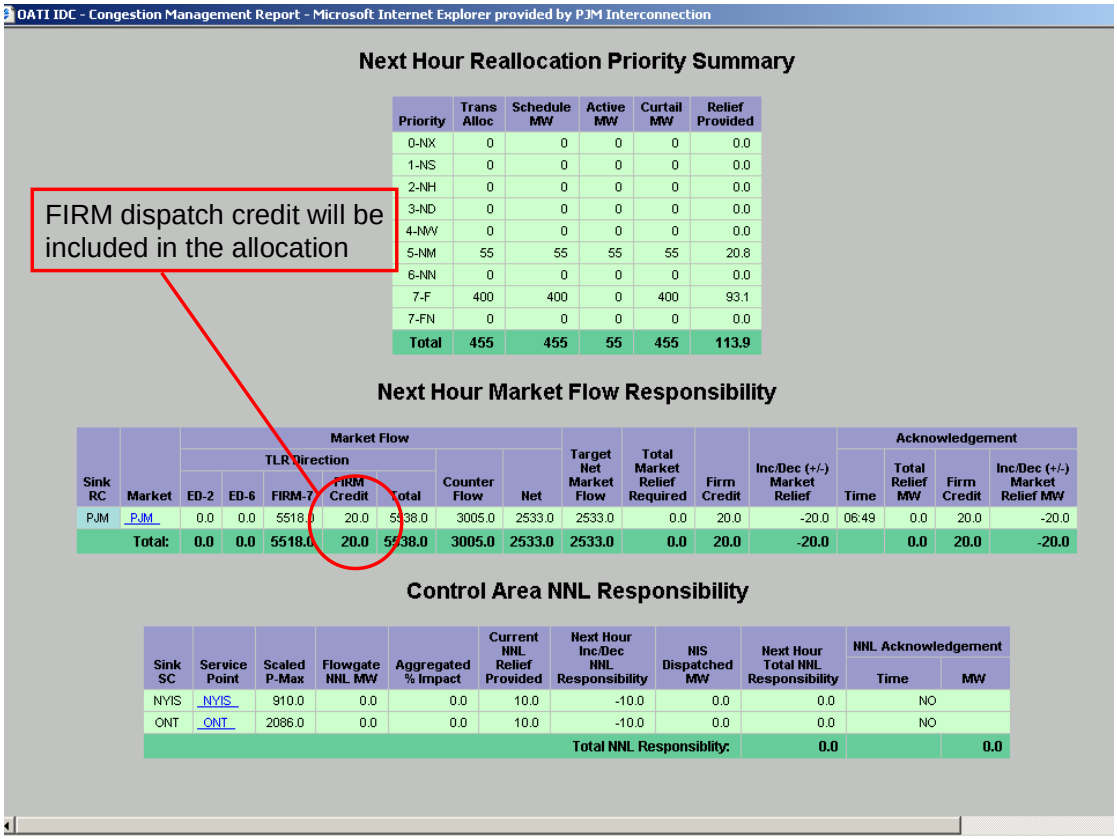
The entering of the Firm Re-dispatch credit should be when the FIRST 5A issuance occurs.

**If the first issuance is a 5B, when the RC changes to a 5A, the RC will enter the Firm Redispatch Credit at that time.

Implementation Details:

When a Reliability Coordinator issues a TLR-5A the RC may indicate that a Market may already be providing FIRM relief to the flowgate in TLR, prior to the TLR request. The issuing RC requests a change in flow on the flowgate from the current flow. See screenshots below.


Flowgate: 3 - PJM-EASTERN INTERFACE
Direction
Market Coordination
Current Active Flow MW
Tags
Market
Total
Next Hour Schedule MW
Tags
Market
Total
Next Hour Inc/Dec (+/-)
Delete
FROM -> TO
YES
266
3734
4000
-268
2513
2245
-1755
TLR Level 5A
Update
Cancel
TLR Start Time: 07:00
Flow Change Request
Increment flow
Unchange flow
Decrement flow
Increment/Decrement MW: 500
Market Firm Redispatch Credit
Market
Firm Credit
PJM
20
Control Area Initial NNL Relief
Control Area
Initial NNL Relief Provided
NYIS
10
ONT
10
Notes:
This value only needs to be entered if the TLR 5A is the first issuance for this flow-gate.
This value will only need to be entered once. (When the TLR is first issued)
Enter Firm Dispatch credit


OATI IDC - Congestion Management Report - Microsoft Internet Explorer provided by PJM Interconnection
Next Hour Reallocation Priority Summary
Priority
Trans Alloc
Schedule MW
Active MW
Curtail MW
Relief Provided
0-NX 0 0 0 0 0.0
1-NS 0 0 0 0 0.0
2-NH 0 0 0 0 0.0
3-ND 0 0 0 0 0.0
4-NW 0 0 0 0 0.0
5-NM 55 55 55 55 20.8
6-NN 0 0 0 0 0.0
7-F 400 400 0 400 93.1
7-FN 0 0 0 0 0.0
Total 455 455 55 455 113.9
FIRM dispatch credit will be included in the allocation
Next Hour Market Flow Responsibility
Sink RC
Market
Market Flow
TLR Direction
ED-2
ED-6
FIRM-7
FIRM Credit
Total
Counter Flow
Net
Target Net Market Flow
Total Market Relief Required
Firm Credit
Inc/Dec (+/-) Market Relief
Acknowledgement
Time
Total Relief MW
Firm Credit
Inc/Dec (+/-) Market Relief MW
PJM PJM 0.0 0.0 5518.0 20.0 5538.0 3005.0 2533.0 2533.0 0.0 20.0 -20.0 06:49 0.0 20.0 -20.0
Total: 0.0 0.0 5518.0 20.0 5538.0 3005.0 2533.0 2533.0 0.0 20.0 -20.0 0.0 20.0 -20.0
Control Area NNL Responsibility
Sink SC
Service Point
Scaled P-Max
Flowgate NNL MW
Aggregated % Impact
Current NNL Relief Provided
Next Hour Inc/Dec NNL Responsibility
NIS Dispatched MW
Next Hour Total NNL Responsibility
NNL Acknowledgement
Time
MW
NYIS NYIS 910.0 0.0 0.0 10.0 -10.0 0.0 0.0 NO
ONT ONT 2086.0 0.0 0.0 10.0 -10.0 0.0 0.0 NO
Total NNL Responsiblity: 0.0 0.0

IDC Calculations

The IDC calculates the next-hour relief request with the following steps:

1. The IDC calculates the total next-hour schedule flow (NHS) as the sum of four components:
    a. Sum of all tag (scheduled amounts) impacts on the flowgate.
    b. Sum of the unconstrained market flows on the flowgate.
    c. Sum of the pre-TLR NNL relief provided by the control areas.
    d. Sum of the Market firm credits.
2. The IDC calculates the current flow (CHA) on the flowgate as the sum of two components:
    a. Sum of all tag (current flowing amounts) impacts on the flowgate.
    b. Sum of the current market flows on the flowgate.
3. The IDC calculates the next-hour target flow (NHT) on the flowgate as NHT = CHA + MF, where MF is positive when the RC requests an increment in flow, or negative if the RC requests a decrement in flow.
4. The IDC calculates the next-hour relief requests, NHRR, as the difference between the next-hour schedule flow (NHS) and the next-hour target flow (NHT); NHRR = NHS – NHT.

The IDC relief calculation curtails all impacting non-firm schedules and non-firm market flows to zero. The non-firm relief (NFR) is calculated by the sum of the impact of all curtailed schedules and non-firm market flows. If NFR is greater-than or equal to NHRR, the no additional curtailment from firm schedules, firm market flows and NNL is needed.

However, if the NFR is less-than the NHRR, the difference between these two values is the relief the IDC needs to be provided from firm schedules, firm market flows and NNL. The IDC assigns the total relief from firm schedules, firm market flows and NNL proportionally, based on the available relief from each of these components, where:

- The available relief from firm schedules is the sum of the impacts of all firm schedules that contribute more than the 5% threshold on the flowgate.
- The available relief from market flows is the sum of the adjusted unconstrained market flows, calculated as the sum of the unconstrained market flows provided by the markets and the markets' firm credit assigned by the issuing RC.
- The available relief from NNL is the sum of the control areas' NNL available for re-dispatch (GLDF = 5%).

The firm schedules are curtailed pro-rata; the firm market flows are curtailed proportionally to their adjusted unconstrained market flows; and the NNL are curtailed proportionally to the control areas' total NNL.