

Description of Fictitious Contract Features for Development of Examples of Cataloguing and Conversion Process

Working Assumptions

- Eight nodes on “model” system (see attachment)
- Six categories of “model” contract – (1) uni-directional point-to-point with single injection and single withdrawal points (no curtailment rights); (2) uni-directional point-to-point with single injection and single withdrawal points (with curtailment rights); (3) uni-directional point-to-point with two injection points and a single withdrawal point; (4) two-way point-to-point with two injection points and two withdrawal points; (5) a network service contract; and (6) an undocumented load service obligation
- In this pass, we follow the process up to day-ahead scheduling, but we don’t worry about real-time changes and settlement issues

Specifications for Model Contracts

(1) Uni-directional point-to-point with single injection and single withdrawal points (no curtailment rights)

Point E \Leftrightarrow Point A, up to 100 MW
24-hour pre-scheduling required

(2) Uni-directional point-to-point with single injection and single withdrawal points (with curtailment rights)

Point E \Leftrightarrow Point H, up to 100 MW
24-hour pre-scheduling required
PTO has the right to curtail 100% of the customer’s schedule on Point E \Leftrightarrow Point H if flows on path CA > 60 MW

(3) Uni-directional point-to-point with two injection points and a single withdrawal point

Injection permitted at Point C or Point D (or both) \Leftrightarrow withdrawal at Point A
 $C + D \leq 100$ MW (neither C nor D can be negative)
 $C + D = A$

(4) Two-way point-to-point with two injection points and two withdrawal points

Injection or withdrawal at Points A and B
Injection or withdrawal at Points G and H

$A + B \leq 100$ MW (neither A nor B can be negative)
 $G + H \leq 100$ MW (neither G nor H can be negative)
 $A + B = G + H$

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A and B have to do the same thing at the same time (that is, if A is being used for injection, B must also – B cannot be used for withdrawal at the time A is used for injection, etc.); the same rule applies to G and H

Point A ⇔ Points G, H

Point B ⇔ Points G, H

Point G ⇔ Points A, B

Point H ⇔ Points A, B

(5) Network service contract

Generators are at Points C, D, and F

Load is at Point A (100 MW peak)

Customer is allowed to inject at Points C, D, and F only to integrate output of generators at those points (no other injections allowed)

$C + D + F = \text{actual load at A}$

Allocation of injection is proportional to actual generation output

(6) Undocumented load service obligation

Same situation as example 5 above with respect to location of generators and load

Working Assumption: to catalogue a load service obligation, a PTO has to translate it into a network service contract first.

Simple 8-Bus Model for examples

(prices indicated are the Locational Prices at each bus)

