

Offtake Arrangements Further Flexibility

DISG

7th September 2004

Further Flexibility

Objectives

- Provision of flexibility required by loads connected to NTS
- Not unduly discriminatory
- Reveal investment signals
- Complimentary to existing arrangements

Key Aspects

- (1) Flexibility product
- (2) Ramp rates and notice periods/ rate changes

(1) Flexibility Product

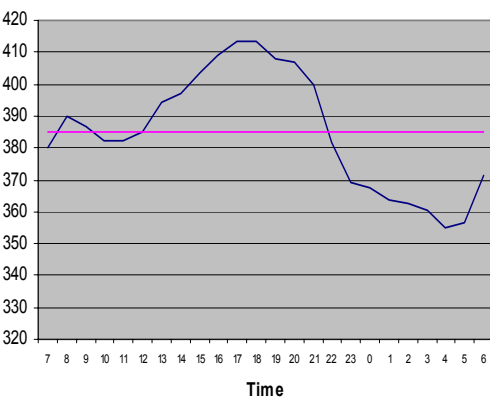
- Background
- Previous discussion
- Proposed product
 - Definition
 - Usage
 - Assessment
 - Release processes

(1) Flexibility Product

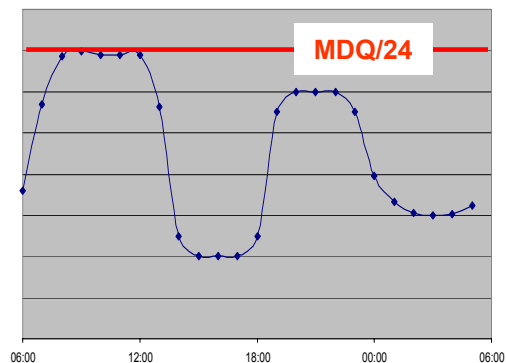
Background

- NTS designed to accommodate 1/24th rates of offtake
- For NTS direct connects, $MHQ = MDQ / 24$
- Planned provision of flexible offtake rates (diurnal storage) to DNs

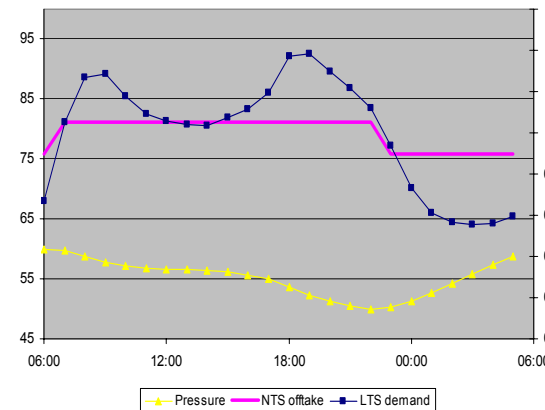
NTS demand (15.01.04)



NTS direct connect



DN offtake profile



(1) Flexibility Product

Previous discussion

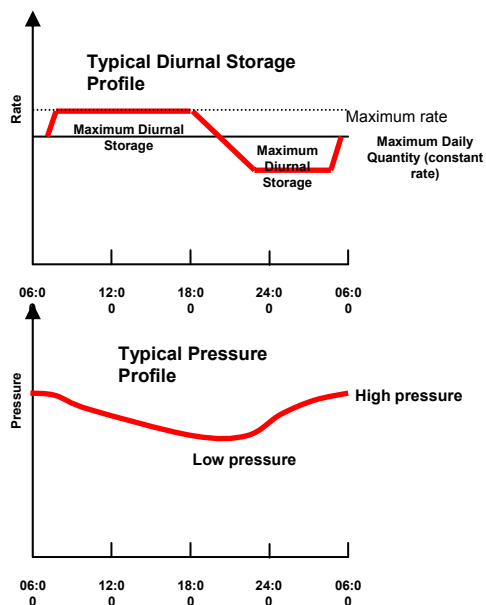
Offtake Code Business Rules, January 2004

Primary Offtake Rights

- Maximum Daily Quantity (constant rate)

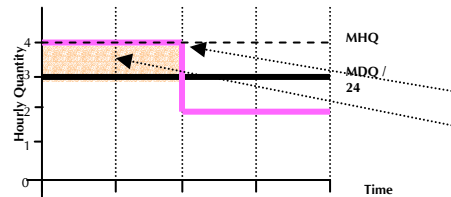
Secondary Offtake Rights

- Maximum Diurnal Storage Quantity
- Minimum "high" pressure in NTS
- Minimum "low" pressure in NTS



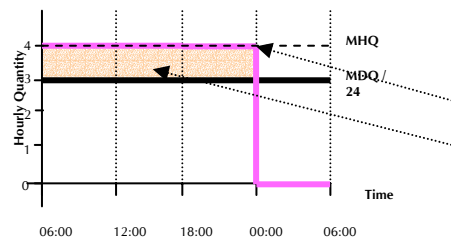
Ofgem presentation to DISG, 24.08.04

- Further flexibility is therefore defined by two parameters:
 - **Incremental Flow** (i.e. additional flow rate required above MDQ/24)
 - **Volume of Flexible Offtake** (i.e. incremental flow rate*time used)



Desired offtake profile 1:

- MDQ = 72
- Incremental Flow = 1
- Volume of Flexible Offtake = 12 (1*12)



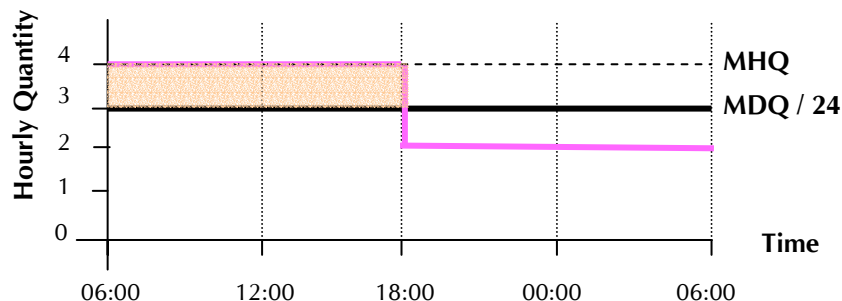
Desired offtake profile 2:

- MDQ = 72
- Incremental Flow = 1
- Volume of Flexible Offtake = 18 (1*18)

(1) Flexibility Product

Product parameters

- Maximum incremental flow rate above MDQ/24
- Volume taken at rates above MDQ/24



- MDQ = 72
- Incremental Flow = 1
- Volume of Flexible Offtake = 12

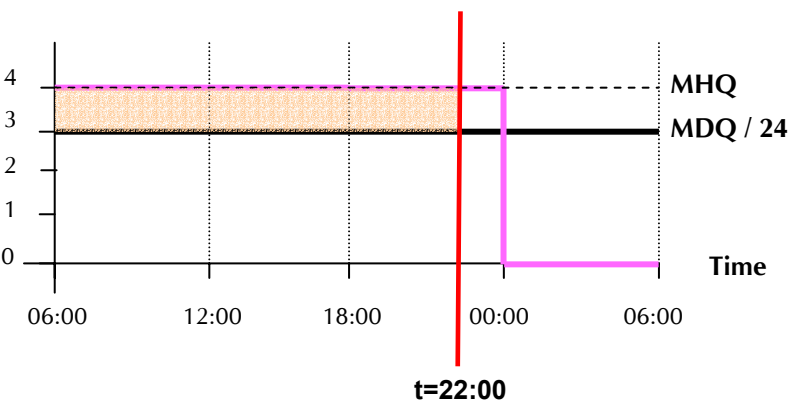
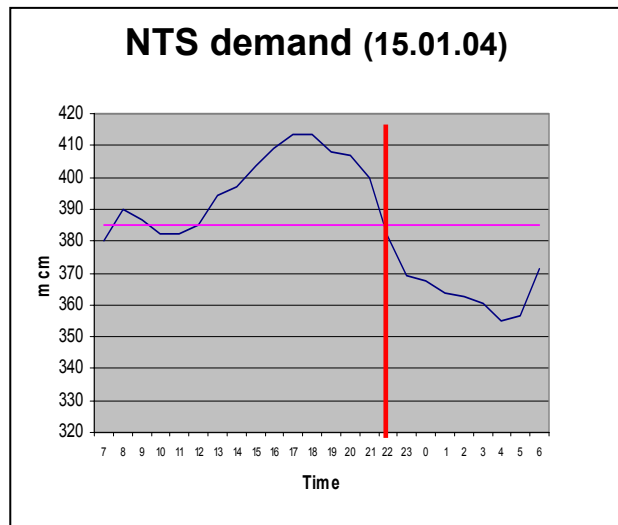
Rationale

- Volume at rates above MDQ/24 is a proxy for additional linepack impact

Other aspects

- Application to all NTS exits
- Overruns where booked volume exceeded
- Requires continuous flow monitoring

(1) Flexibility Product



“Diurnal” and “anti-diurnal” volumes

- Volumes taken at rates above MDQ/24 before time t contribute to NTS demand
- Volumes taken at rates above MDQ/24 after time t reduce NTS demand

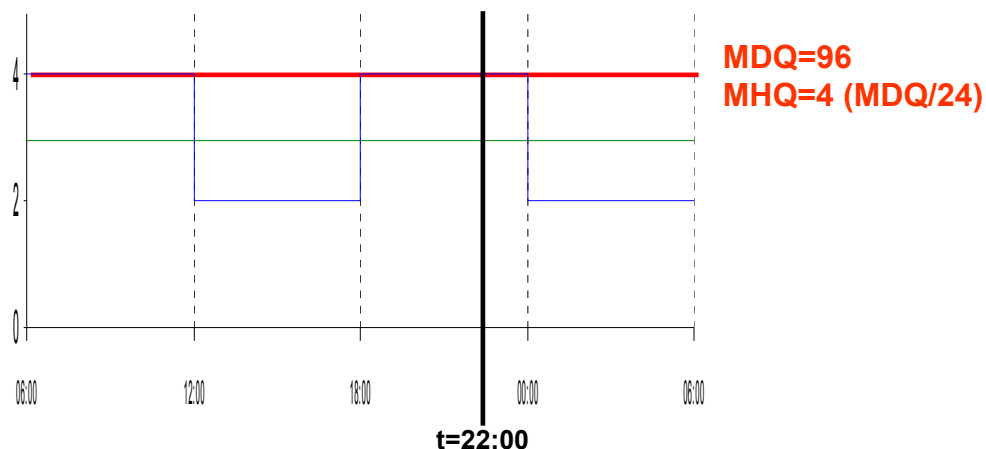
Potential solutions

- Exclude volumes taken at rates above MDQ/24 after t from product usage calculation
- Develop positive and negative products for volumes before and after time t .
- Develop “offset” arrangements
- Develop tender arrangements for NTS to purchase volumes after time t if necessary.

(1) Flexibility Product

Interaction with NTS exit capacity
Proposed product usage: Direct connects

Offtake Profile



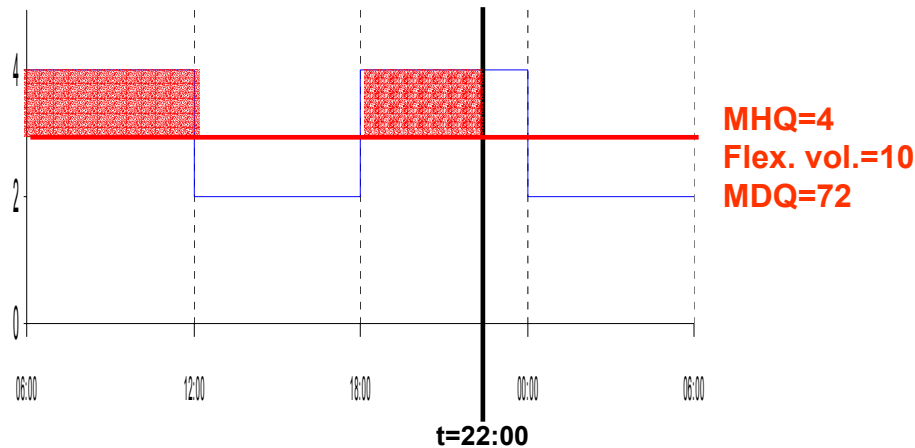
Two means of accommodating profile:

1. Book MDQ of 96 (4x24) and no flexibility product (as per current arrangements for direct connects)

(1) Flexibility Product

Interaction with NTS exit capacity
Proposed product usage: Direct connects

Offtake Profile

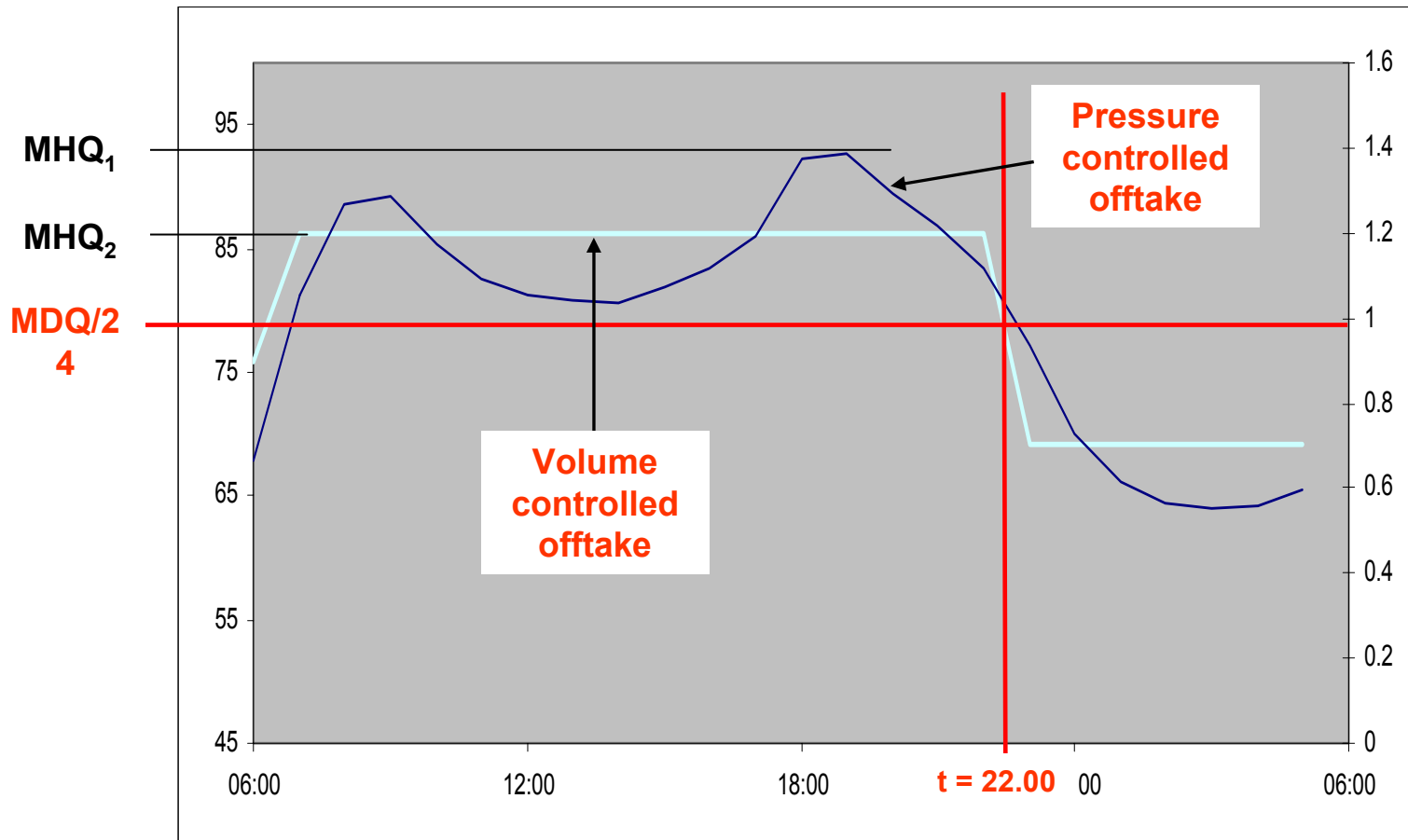


Two means of accommodating profile:

1. Book MDQ of 96 (4x24) and no flexibility product (as per current arrangements for direct connects)
2. Book MDQ of 72 (3x24) and flexibility product:
 - Incremental rate of 1(MHQ=4)
 - Volume of 10 (6x1 + 4x1)

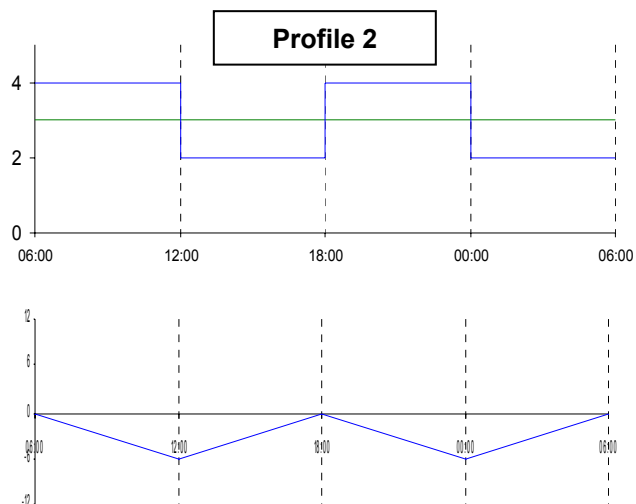
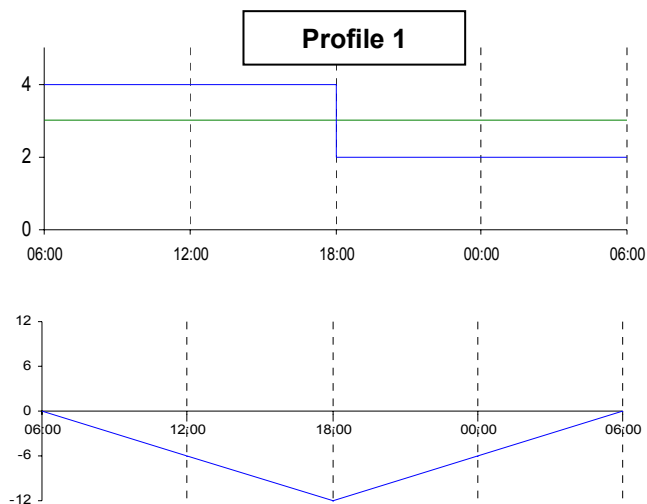
(1) Flexibility Product

Proposed product usage: DNs



(1) Flexibility Product

Profile cycling and linepack impact



Proposed product addresses potential linepack impact but does not cater for profile cycling

(1) Flexibility Product

Product Assessment

Pros	Cons
Simple additional product, no requirement to purchase	
Enables security of supply obligations to be met	
Enables optimisation of MDQ with flexibility product	
Reflects linepack impact when average rate is MDQ/24 if no profile cycling	• Does not deal fully with profile cycling • Assumes all flexibility used at rates < MDQ/24 can be provided from “unused” transmission capacity.

(1) Flexibility Product

Release processes

- 3+ years out for NTS and DN design purposes, investment decisions/ incentives
- 1 year out, further release incentives
- Within year

Tenders

NTS to tender for “anti-diurnal” product if necessary

Further consideration

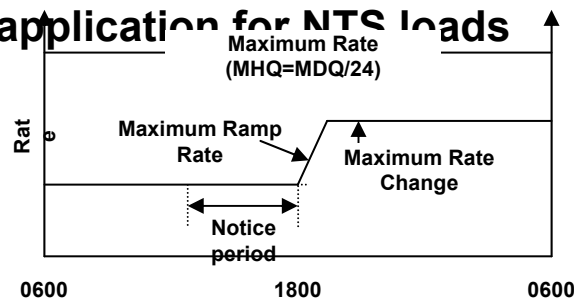
- Tranching (annual, monthly, daily blocks)
 - Zoning
- (Consistent with primary NTS exit capacity product)

(2) Ramp rates and notice periods/ rate changes

Background

- Historically, ramp rate and notice period/ rate change limitations set via NExA, generally at time of connection, based on consumer requirements – hence differences across system

Current application for NTS loads



Rationale

- Ramp rates protect offtake equipment (e.g. orifice plates) and are thus essential where NTS owns the offtake equipment
- Both ramp rates and notice period/ rate change restrictions protect upstream equipment (especially compressors) from large and rapid pressure fluctuations that control equipment cannot cope with

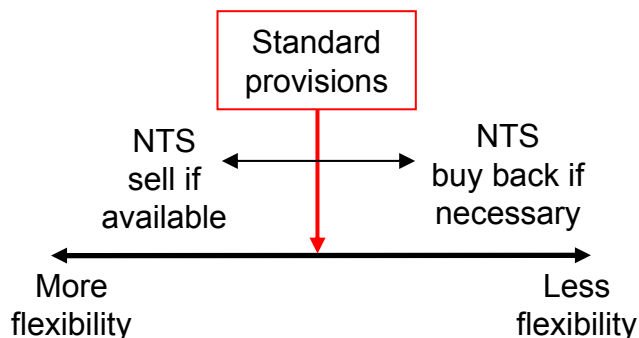
(2) Ramp rates and notice periods/ rate changes

Future product

- Ramp rates only where NTS owns offtake facilities?
- Notice period and rate changes standardised?

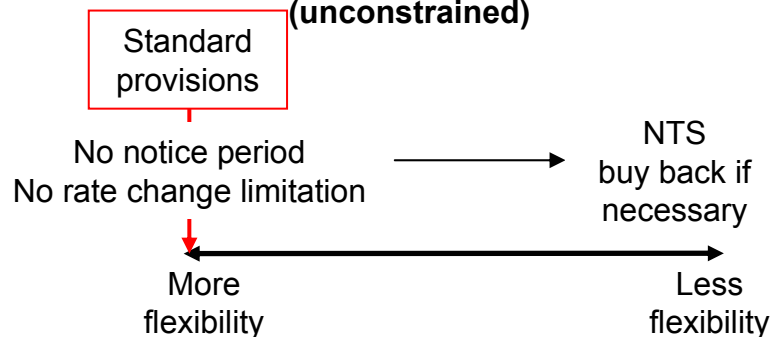
Approaches to standardised notice periods/ rate changes

Approach 1



- Standard provisions (location dependency being considered)
- Avoid excessive sale/ purchase

Approach 2 (unconstrained)



- Operational information difficulties
- Frequent requirement for buy back