Dominion Energy®
IRP Technical Conference

February 21, 2018

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IRP 2018 Schedule

- February 21, 2018 – Technical Conference
  - IRP Standards and Guidelines
  - Review of 2017 Order
  - Interruptible Tariff
  - Proposed 2018 IRP Outline
  - Demand Response
- March 13, 2018 – Technical Conference
  - Heating Season Review
  - Peak Day Calculation
  - Supply Reliability
- April 24, 2018 – Technical Conference
  - RFP Recommendations
  - Wexpro Matters
- May 16, 2018 – Technical Conference
  - To be Announced
- June 26, 2018 – Technical Conference
  - Presentation of Integrated Resource Plan

Agenda

- IRP Standards and Guidelines
- Review of the 2017 Commission IRP Order
- Interruptible Tariff
- Proposed 2018 IRP Outline
- Demand Response

IRP Standards and Guidelines (2009)

Guideline	Update
Review latest quarterly variance report	IRP Report, March 13, 2018 Tech Conf
Changes to customer growth models	IRP Report – Customer & Gas Demand Forecast Section
Changes to linear programming optimization (LPO) model (SENDOUT)	IRP Report – Final Model Results Section
Changes to DSM models	IRP Report – Energy Efficiency Section
Supply/demand forecasts, SENDOUT and DSM results	IRP Report – Customer & Gas Demand Section
Gas quality and gas storage issues	IRP Report – Gathering, Transportation, & storage section
Changes to Gas Network Analysis (GNA) models	IRP Report – System Capabilities and Constraints
GNA model results	IRP Report – System Capabilities and Constraints
Integrity management issues	IRP Report – Integrity Management Section
Other issues	Scheduled as needed

Review of the 2017 Commission IRP Order

- With the exception of Chapter 8 Peak-Hour Demand and Reliability, we find that the 2017 IRP as filed generally complies with the requirements of the 2009 IRP Guidelines.

- Dominion shall monitor and report on demand-response issues, initiate an IRP docket early each year, modify the IRP so the action plan is readily accessible, and include a discussion of its interruptible customer rate structures and tariff provisions in a 2018 pre-IRP filing public meeting.

- Dominion shall provide modeling sensitivity analyses and other information identified in Section 3 above in future IRPs pertaining to all evaluated solutions for addressing perceived peak hour deficiencies and in all filings related to approval of an LNG facility.

Failure to interrupt

"Failing to interrupt may not be appropriately matched to amounts from penalties and fines applied for future failure to curtail…the OCS suggests Dominion provide a report of cost information for firm services to offset the lack of curtailment and the amount of penalty allocated to the GS class for comparison."

	General Service Tariff	Assessed Charges
SNG & Commodity	$5.16	$5.10
Penalty	N/A	$40
Total	$5.16	$45.10

21,756 penalty Dths X $39.90 = $868,064

Tariff Provisions

Dominion shall monitor and report on demand-response issues, initiate an IRP docket early each year, modify the IRP so the action plan is readily accessible, and include a discussion of its interruptible customer rate structures and tariff provisions in a 2018 pre-IRP filing public meeting.

- Section 3 – Interruptible Services
- Section 4 – Interruptible Sales Service (IS)
- Section 5 – Transportation Services

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Process Improvements

- Transportation service customers must nominate firm and interruptible volumes separately
- Nominations are not allowed to exceed daily contract limit for the type of service
- Imbalances are aggregated at the delivery point
- Added contact information for nominating parties into mass notification system
- Electronic Data Interchange between DEU and Kern River allowing nominations to be balanced and scheduled electronically
- Plan Tariff revisions to Sections 3, 4, 5 to match current business practices and clarify points of confusion

Section 3 – Interruptible Services

- Applicable to both Interruptible Sales Service (IS) and Transportation Service Interruptible (TSI) Customers
- Interruption Conditions
- Schedule of Interruption
- Failure to Interrupt
  - $40-per-decatherm penalty
  - Must buy Firm service for 3 years

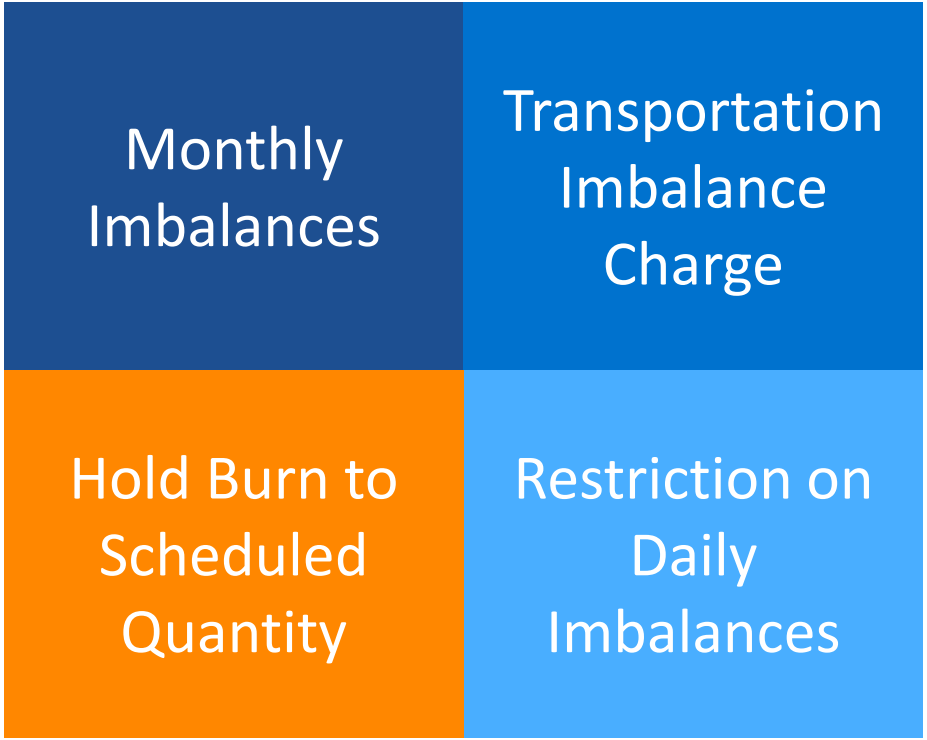
Section 4 – Interruptible Sales Services (IS)

- Terms of service for Interruptible Sales Service (IS)
- Customer must have a load factor of at least 15%
- Minimum annual usage of 7,000 Dth is required

Section 5 – Transportation Service

- Name change of FT-1 service to Transportation Bypass Firm (TBF)
- Clarify the differences between Transportation Service Firm (TSF) and Transportation Service Interruptible (TSI)
- Nomination priority of service
- Imbalance management
  - Imbalance = scheduled nomination less fuel – usage
  - 4 ways Imbalances are managed

Imbalance Management



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Monthly Imbalances

- Allow ± 5% imbalance monthly
- At month end customers may trade imbalances with each other
- Imbalances remaining after trading period that are outside the 5% tolerance will be cashed out
- Generally customers are within tolerance
- Intent is to have gas “payback” done at a similar price as the gas “borrowed”

Monthly Imbalances

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Transportation Imbalance Charge

- Customers expected to be within ± 5% imbalance daily
- Any given day that daily imbalance is outside the ± 5% tolerance customer will be assessed Transportation Imbalance Charge
- Intent is to cover the cost of services used to manage system imbalances on a day-to-day basis

Transportation Imbalance Charge

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Restriction on Daily Imbalances

- Company will provide notice through an OFO
- Will be issued in the event that a customer's imbalance may cause Company to alter operations or gas supply plans
- Tolerance for restriction period will be given
- Penalty equal to the greater of $1.00/Dth or the difference between the monthly and daily index prices plus $0.25/Dth
- A penalty of $25/Dth may be imposed when a nominating party or customer has repeatedly ignored restrictions
- Following restriction parties may exchange or aggregate imbalances to mitigate penalties
- Intent is to prevent customer from using imbalances to manage supply, demand, or price fluctuations

Restriction on Daily Imbalances

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Hold Burn to Scheduled Quantity

- Company will provide notice through an OFO
- Customers expected to match scheduled quantity to usage
- A penalty of $40 per Dth will be imposed when a customer uses more gas than is scheduled
- Customer who burns more than Firm contract limit must purchase incremental Firm capacity for 3 years
- Customers or nominating parties may not exchange or aggregate imbalances in order to avoid or mitigate penalties
- Intent is to prevent customers from using more gas than they bring to the system

Hold Burn to Scheduled Quantity

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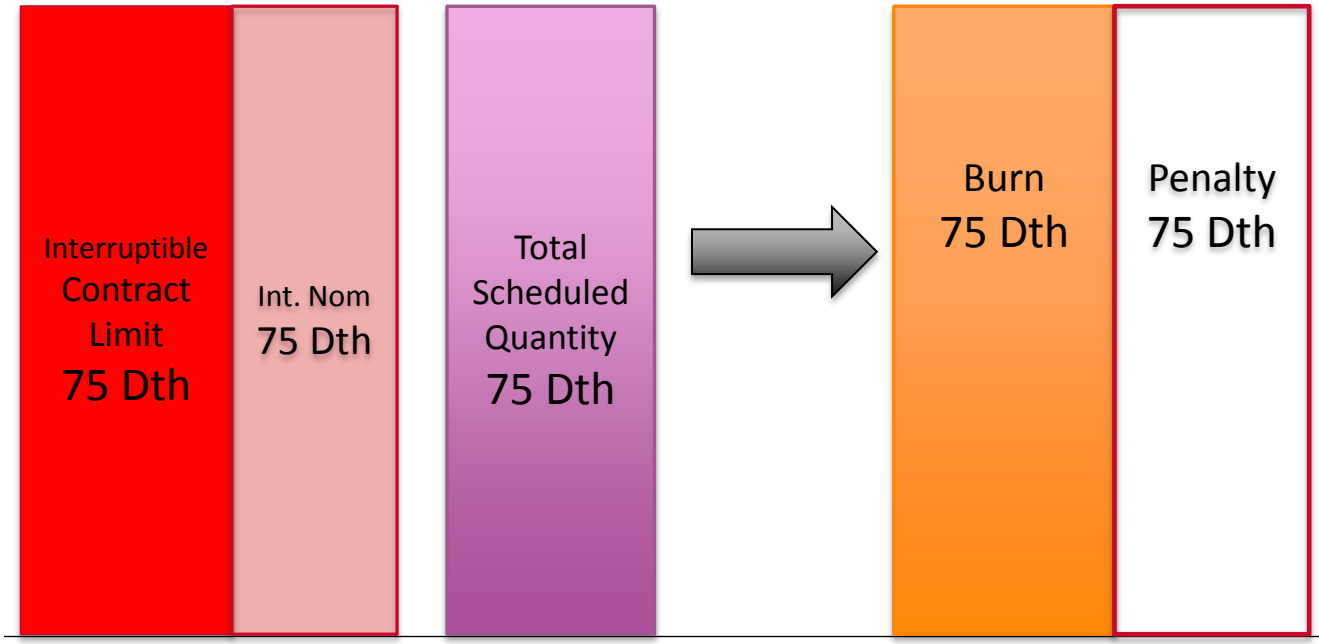
Examples

Interruption



- 75 Dth at $40/Dth
- Must purchase 75 Dth firm

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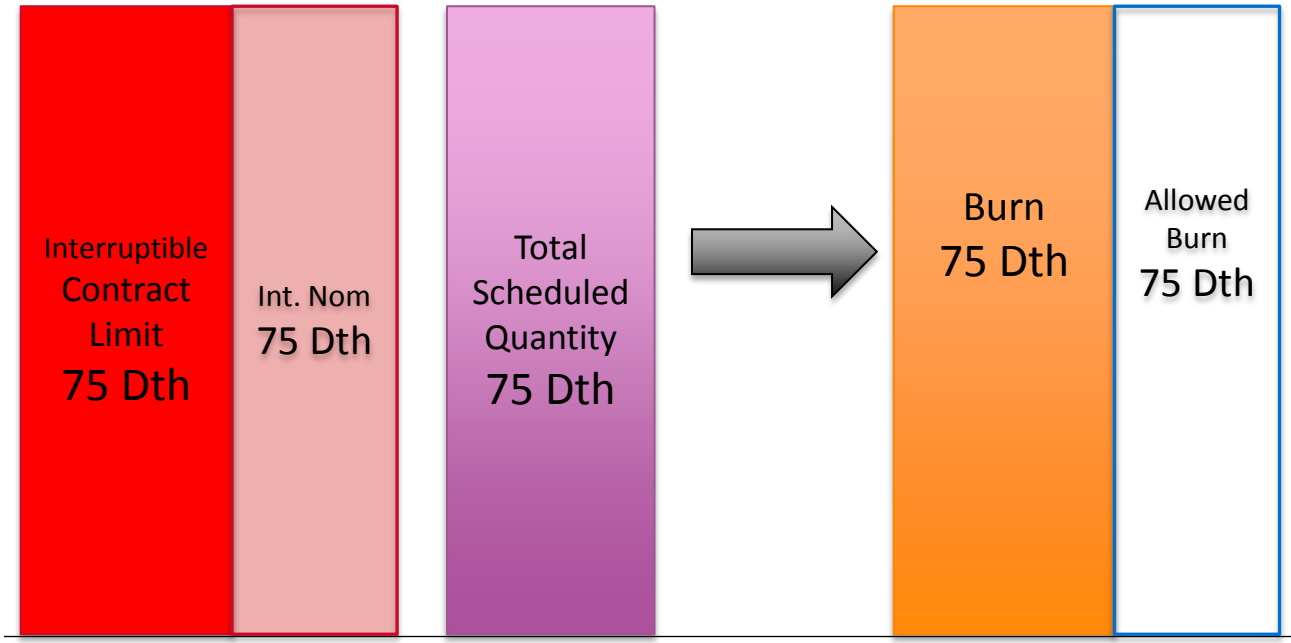
Hold Burn to Scheduled Quantity OFO



- No Penalty

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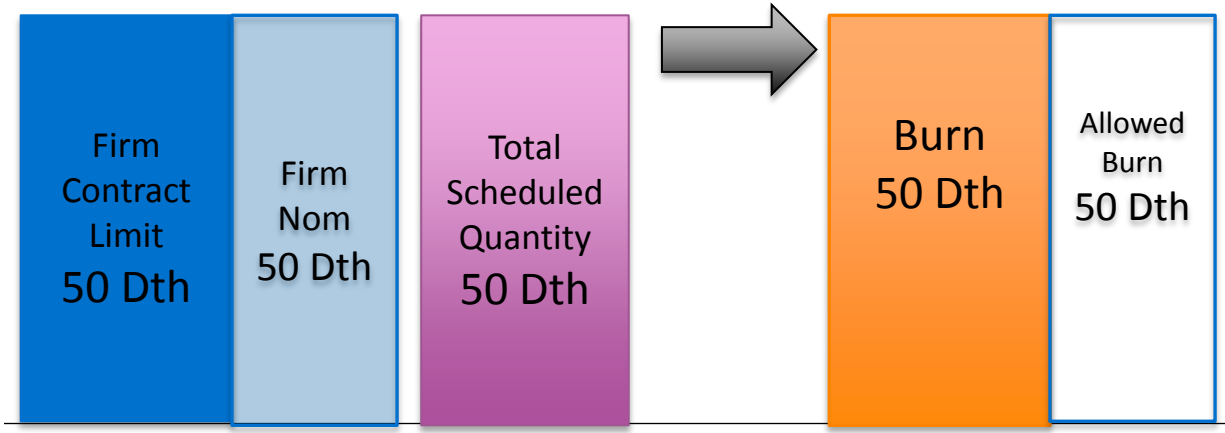
Hold Burn to Scheduled Quantity OFO

- No Penalty



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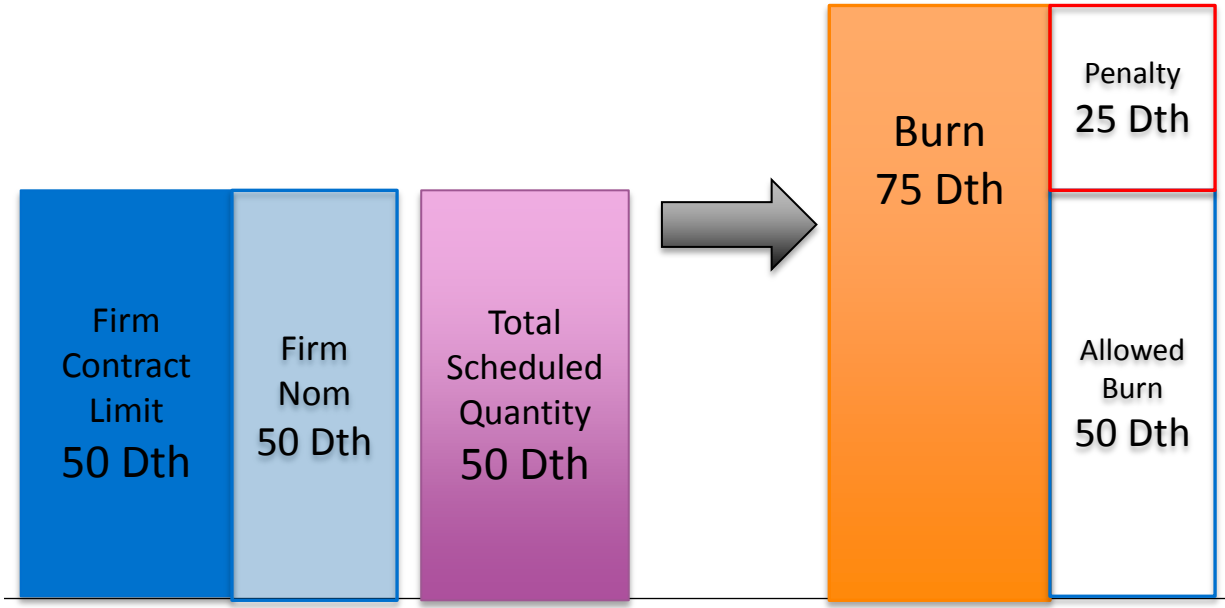
Hold Burn to Scheduled Quantity OFO

- 25 Dth at $40/Dth
- Must purchase 25 Dth additional Firm



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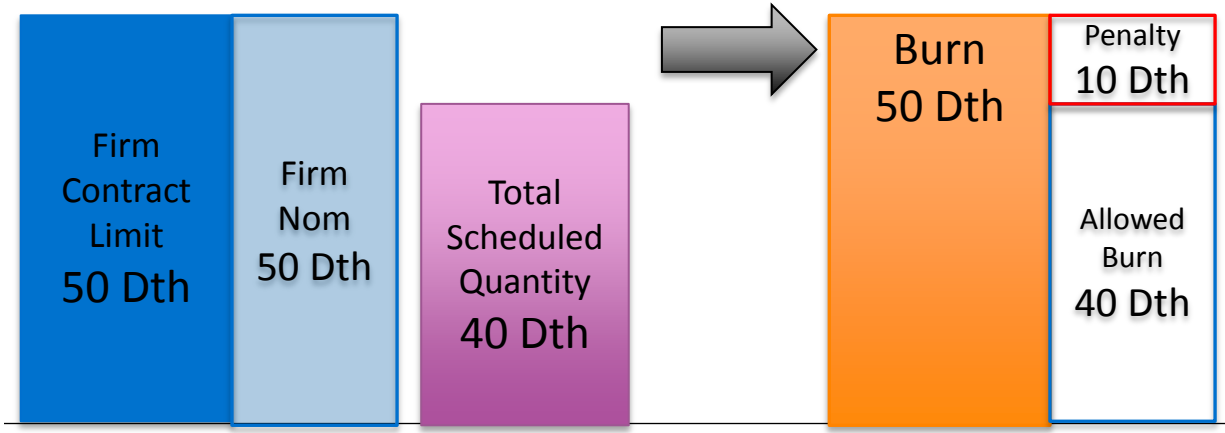
Hold Burn to Scheduled Quantity OFO

- 10 Dth at $40/Dth Difference from scheduled Quantity up to Firm limit



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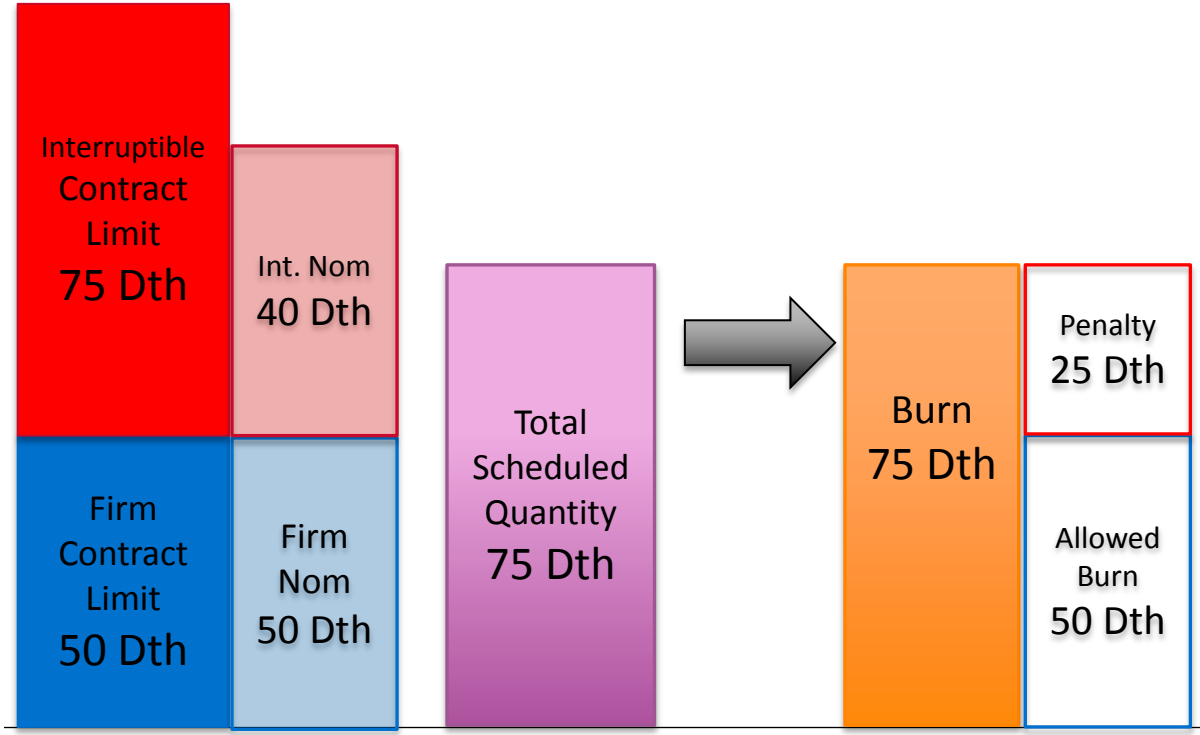
Hold Burn to Scheduled Quantity OFO and Interruption Simultaneously



- 25 Dth at $40/Dth
- Must purchase 25 Dth additional firm
- 25 Dth of scheduled quantity can be cut, redirected, or left on system as imbalance

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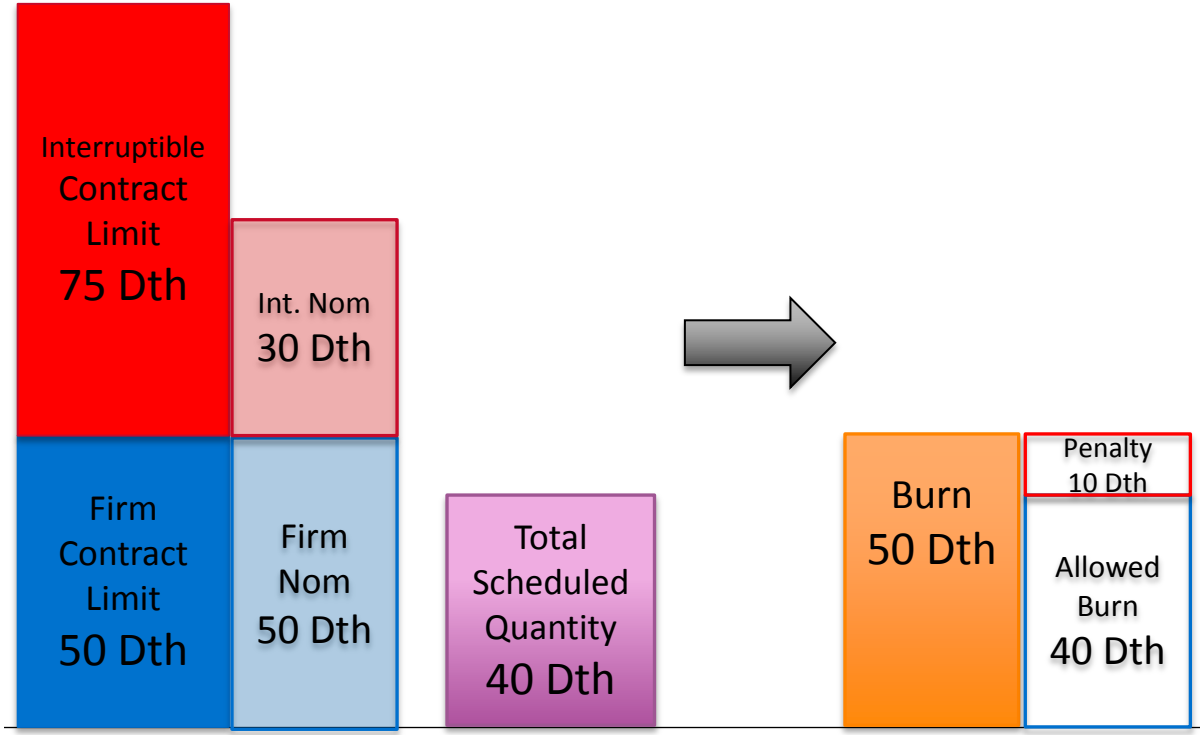
Hold Burn to Scheduled Quantity OFO and Interruption Simultaneously



- 10 Dth at $40/Dth

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Proposed 2018 IRP Outline

- Executive Summary
- Introduction
- Customer and Gas Demand Forecast
- System Capabilities and Constraints
- Distribution System Action Plan (DNG Action Plan)
- Integrity Management
- Environmental Review
- Purchased Gas
- Cost-of-Service Gas
- Gathering, Transportation, and Storage
- Supply Reliability
- Energy Efficiency
- Model Results
- Guidelines
- Appendix

Demand Response

- Dominion Energy continues to review demand response programs to reduce peak-hour demand and to provide an option for maintaining reliable service in the event of supply shortfalls
  - Large Use Customers
  - Residential and Commercial Customers

Demand Response – Large Use Customers

- Reducing peak-hour demand requires immediate response
- Concerns exist regarding shutting down supply to electric generation
- Historical requests for reduction resulted in a high level of non-compliance
  - Would require remote shut-off equipment to ensure reliability
  - Remote shut-off equipment could cost up to $110,000 per customer
- Transportation customers would be required to deliver adequate supply everyday

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Demand Response – Residential and Commercial Customers

- Findings from researching programs at other utilities:
  - Mass media campaigns promoting reduction in customer usage on “advisory days”
  - A pilot rebate program – An offer that included an incentive for reducing gas usage on “advisory days” – this involved an ecobee thermostat and an hourly meter
  - None of these campaigns produced statistically significant reductions in gas usage
  - Any reduction in usage would not be reliable enough to count on in a peak-hour event
- Programs would be voluntary – limited reliability

Questions?