

**Question No.**  
**CSC – 001**

***Would addition of the proposed compressor station in Brookfield (Iroquois 08/09 Expansion Project) increase the potential impact radius (PIR) related to the burning point of wood from the estimated 624 feet that was determined as part of the FERC approved Brookfield Compressor Station (Market Access Project)?***

**Response:**

No. Though the addition of a second compressor would increase the amount of aboveground piping, the sizes would not be increased from the single unit installation, and the worst case burning point of wood PIR, remains unchanged from a failure event involving the 24 inch full size pipeline (reference: Petition 755A CSC Findings of Fact, June 27, 2006, Article 111).

**Responsible Witness: Joseph F. Camean, P.E.**  
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**Responded to September 19, 2007**

**Question No.**  
**CSC – 002**

*Using a threshold of 1,800 Btu, would the addition of the proposed Brookfield Compressor Station (Iroquois 08/09 Expansion Project) increase the PIR related to burn injury from the estimated 1,040 feet that was determined as part of the FERC approved Brookfield Compressor Station (Market Access Project)?*

**Response:**

No. Though the addition of a second compressor would increase the amount of aboveground piping, the sizes would not be increased from the single unit installation, and the worst case burn injury PIR remains unchanged from a failure event involving the 24 inch full size pipeline (reference: Petition 755A CSC Findings of Fact, June 27, 2006, Article 112).

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**Question No.**  
**CSC – 003**

***Would the PIR of the proposed Brookfield Compressor Station impinge on the Whisconier Middle School?***

**Response:**

No. Though the addition of a second compressor would increase the amount of aboveground piping, the sizes would not be increased from the single unit installation, nor would the separation distance of approximately 2,000 linear feet from the Whisconier Middle School. As such, the PIR, calculated at either threshold heat flux, would not impinge on the Whisconier Middle School (reference: Petition 755A CSC Findings of Fact, June 27, 2006, Article 113).

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**Question No.**  
**CSC – 004**

*In the event of an explosion of one of the compressor stations on the Iroquois property in Brookfield, what would typically happen to the other compressor station?*

**Response:**

The worst credible failure event that could affect the adjacent compressor would be a catastrophic compressor failure. Each compressor has safety systems to monitor critical parameters, e.g. temperature, vibration, overspeed, etc. resulting in an equipment shutdown of the affected machine prior to spread of damage. In the highly unlikely event that the failure was not contained, both compressors would be shut down and isolated from the mainline by the emergency shutdown system. (reference: Final Report on Hazard Identification Analysis for Brookfield Compressor Station, Kiefer and Associates, Inc., April 20, 2006, p. 3).

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**Question No.**  
**CSC – 005**

*Are there any additional safety systems or shut off options that would typically be installed if an additional compressor station is approved on the property in Brookfield?*

**Response:**

Iroquios will incorporate the monitoring of the second compressor into the Supervisory Control and Data Acquisition and Emergency Shutdown systems, which are already identified to be provided for the compressor station as part of USDOT safety standards. (reference: Petition 755A CSC Findings of Fact, June 27, 2006, Article 97).

**Question No.**  
**CSC – 006**

*Please calculate the estimated PIR for the proposed Newtown Pipeline loop?*

**Response:**

The Newtown Pipeline Loop size is 36 inch at a Maximum Allowable Operating Pressure of 1,440 pounds per square inch gauge (psig). (reference: Iroquois Resource Report 1, July 2007 Draft, Section 1.1.2.1.3). Using the equation  $R = (2348 \times P \times D^2 / I)^{1/2}$  for Potential Impact Radius (PIR). (reference: Final Report on Hazard Identification Analysis for Brookfield Compressor Station, Kiefer and Associates, Inc., April 20, 2006, Appendix B, p. B-3).

$$R = (2348 \times P \times D^2 / I)^{1/2}$$

R = Radius in feet

P = 1,440 (Pipeline Pressure in psig)

D = 36 (Pipeline diameter in inches)

I = Heat Flux in Btu/hr.-ft<sup>2</sup>

For the two significant threshold heat flux levels, the PIR is calculated as follows:

For I = 5,000 (lower threshold for piloted ignition of wood), the PIR is 936 feet.

For I = 1,800 (lower threshold for onset of burn injury), the PIR is 1,560 feet.

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**Question No.**  
**CSC – 007**

*Are there any additional safety systems or shutoff options that would typically be installed on a pipeline looping section to prevent impact?*

**Response:**

Iroquois has indicated that isolation valves for the loop segments will be operated manually. (reference: Iroquois Resource Report 1, July 2007 Draft, Section 1.1.2.1.5). An option that could be investigated would be to add automatic isolation valves. These could be incorporated as part of the Supervisory Control and Data Acquisition, and Emergency Shutdown systems.