

## **Nelson County's Propensity for Erosion, Landslides, and Flooding make it an Inappropriate Route**

- Nelson is characterized by steep slopes with shallow soils over bedrock that are particularly prone to erosion, and landslides<sup>1</sup>
  - The pipeline is proposed to cut through Nelson's steepest areas, including the Davis Creek area<sup>2</sup>
- Regions that have experienced landslides in the past are more prone to future "mass movement"<sup>3</sup>
  - Altering drainage and slope, such as occurs in pipeline construction, greatly increases the likelihood of landslides<sup>3</sup>
  - The debris flows and floods that occurred in the Lovington, Virginia, and Horseshoe Mountain, Va., 7.5" quadrangles in Nelson County (Davis Creek area) due to Hurricane Camille in 1969 were one of the worst natural disasters to ever occur in Virginia's recorded history<sup>4</sup>
- "Significant rain events that trigger landslides occur in Virginia every 10-15 years"<sup>5</sup>
  - Debris flows are precipitated by periods of rapid and intense rainfall<sup>6</sup>
  - Nelson's mountainous terrain makes it subject to "Orographic lifting," a key component of the disastrous Hurricane Camille<sup>7</sup>
  - Orographic lifting is defined in Wikipedia as occurring "when an air mass is forced from a low elevation to a higher elevation, as it moves over rising terrain...which can raise the humidity to 100%... and cause, under the right conditions, precipitation."
- The United States Geological Service recommends enacting zoning restrictions on land subject to debris-flow and flood hazards to reduce loss of life and property<sup>8</sup>
- Flooding and landslides pose serious risks to gas transmission pipelines, such as rupture and spillage<sup>9</sup>
  - If Dominion continues its plan to build the pipeline in areas known to be prone to landslides, like the Davis Creek area, they will incur heavy liability
    - Wintergreen Development was successfully sued into foreclosure in 1995 by several homeowners regarding undisclosed "land slippage" in an area with the same land slide prone geology and soil conditions as Davis Creek (Case Nos. CL95000211-00, -02)
- The pipeline's current route includes areas that have been inundated in deadly flash flooding in the past, and the flood way around the James River<sup>9</sup>

## References

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[http://elibrary.ferc.gov/idmws/file\\_list.asp?accession\\_num=20141211-5053](http://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20141211-5053)
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[http://www.vaemergency.gov/webfm\\_send/862/Section3-7-Flooding.pdf](http://www.vaemergency.gov/webfm_send/862/Section3-7-Flooding.pdf)