57 DOONCARTON MOUNTAIN LANDSLIDES

Submission number 26 states that the following statement regarding the landslides on Dooncarton Mountain included in the Tobin's report prepared for Mayo Co. Co. in 2003 is contradicted by AGEC in the EIS:

> "The exceptional conditions induced by the September 19th rainfall have lowered the threshold of weather conditions now likely to remobilise disturbed material on the mountain slopes. There remains therefore an elevated residual risk of further landslides of material."

It should be first noted that AGEC also provided specialist geotechnical advice to Mayo County Council on the impact that the landslides that occurred on Dún Cheartáin (Dooncarton) Mountain in 2003.

Within the EIS, Appendix M2, an assessment of ground stability risk to the pipeline associated with landslides originating on Dooncarton Mountain was carried out. In this assessment it is asserted that further landslides from Dooncarton Mountain are 'unlikely' (EIS, Appendix M2, page vi). Comments as follows:

(1) The Tobin report in referring to 'elevated risk of further landsliding' is focused on housing located on the slopes of Dooncarton Mountain, where any small failure could have serious consequences to a house on the slope.

(2) The Tobin report was written shortly after the 2003 failure where the condition of the failed ground on the mountain slopes was still uncertain, particularly how this ground would behave following further intense rainfall. Since there has been no further landsliding since 2003 the failure conditions on the slope have likely improved. However, until such time as Mayo County Council carries out a further assessment of the slopes the existing Tobin report remains the relevant authority for housing development in the area.

(3) The assessment of landsliding in the EIS was not directed at examining the risk to an individual house but a wider scale examination of landsliding from the mountain and its impact on the pipeline. The assessment in the EIS must be viewed in this wider context and cannot be applied to specific individual houses.

(4) The assessment in the EIS is not intended to be a definitive assessment of landslide risk for individual houses located within a few hundred metres of the landslides and should not be read in this context. The existing Tobin report remains the relevant authority for housing development.

(5) The EIS and associated evidence demonstrates that the proposed pipeline works will have no effect on the stability of Dooncarton Mountain, and that in the unlikely event of a similar scale of landsliding as 2003 the pipeline itself will also not be effected. The condition of the stability of Dooncarton Mountain and how it may affect the local community is a matter for Mayo County Council.

Submission number 26 also refers to a road down to Glengad beach which was also damaged by the 2003 landslides and which was not mentioned by AGEC and yet it exists less than 50m from the proposed pipeline.

Within the EIS, Appendix M2, Section 7 the assessment of ground stability risk to the pipeline associated with landslides originating on Dooncarton Mountain identified several streams that cross the pipeline route. Stream 6 (EIS, Appendix M2, Section 7, Photo 5) comprised a track down to

Glengad beach, referred to above, where there was erosion of the track bed. The erosion was due to surface water run-off that occurred during the 2003 rainstorm event that caused the landsliding. This erosion is not considered to represent a risk to the pipeline, particularly as at this location (about 50m north) the pipeline is buried at 5m depth within a concrete filled tunnel.

This submission also states that climate change has not been considered in the assessment of the likelihood of landslides.

With respect to possible increases in rainfall intensity due to climate change the following comments are given:

(1) The 2003 landslides on Dooncarton Mountain occurred following an extreme rainfall event. The reported recurrence interval for this rainfall is given as in excess of 1 in 100 years up to possibly between 4,000 and 10,000 years.

(2) Given the extremeness of the event the probability of a repeat event is considered highly unlikely, even when taking into account climate change

(3) The extent of the 2003 landsliding on the northern slopes of Dooncarton Mountain comprised almost a continuous landslide scar across the critical steeper upper slopes on the mountain. Within these scars most of the vulnerable soil cover has been removed by the 2003 landslide event.

(4) In the highly unlikely probability of a similar rainfall event affecting the mountain there is less volume of vulnerable soil cover to fail. The scale of landsliding following a similar rainfall event is therefore considered to be less. As the 2003 debris did not affect the route of the pipeline it is reasonable to expect that a smaller scale landslide event would also not affect the pipeline route.

(5) Following the 2003 rainfall event Mayo County Council erected safety fences, bunds and ditches to catch landslide debris. These measures will reduce the impact of any landsliding on the nearby housing. The proposed pipeline will be buried underground some 800m from the landsliding.

(6) Given the decreasing slope inclinations away from the Dooncarton Mountain slopes and the various obstructions to debris flows such as earthen ditches, fences, roads, buildings it is highly unlikely that a debris flow on an open slope would reach the pipeline route or landfall valve installation.

(7) Debris flows that move down-slope could enter the existing watercourses. Once channelised, the debris flows will travel a greater distance compared to a debris flow on an open slope. The debris flow would comprise essentially debris entrained within water, which would have an erosive effect on the stream channel. Where any of these channels cross the pipeline route the pipeline is buried at greater depth with a buried concrete slab placed over the pipeline.