



April 9, 2014

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Regional Integration
(Designated Director under the Act)
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SENT ELECTRONICALLY

Dear Ms Kristensen,

Re: **Sasol Canada Holdings Limited - Proposed Canada GTL Project**
EPEA Application No. 001-00329786 and Water Act No. 00329881 (The "Applications")

Thank you for your letter dated April 7, 2014 requesting clarifications concerning the Traffic Impact Assessment (TIA) submitted to Alberta Environment and Sustainable Resource Development (AESRD) as part of the response package to Supplemental Information Request (#1) for the above-referenced Applications. We are pleased to submit the following additional information that we hope provides the clarification Alberta Transportation (AT) is seeking. The information is presented in the same order as the three points identified in your letter.

1. We regret the error in section numbering that occurred on pages 26 and 30 of the TIA Report. A revised electronic copy of the TIA Report with this change and the other changes noted in this letter was couriered to AESRD and AT today.
2. With respect to the comments from AT regarding the Level of Service (LOS) at the intersections of Highway 15 and Range Road 214 and Range Road 220, we provide the following comments:

The City of Fort Saskatchewan is located immediately to the east of these two studied intersections; the east corporate limit of the City of Fort Saskatchewan is Range Road 220. Therefore, for the intersection of Highway 15 and Range Road 220, the west leg of the intersection is within the City limits and the posted speed limit is 80 km/h. The existing intersections to the east and west of this location are both signalized due to the higher development densities and traffic volumes within the area. Therefore, in our judgement the location of these two studied intersections is not a rural area and drivers' expectation of higher delay time is consistent within the specifics of the urban setting of the area.

In addition, the Industrial Heartland to the north of both intersections is situated adjacent to the City. The Industrial Heartland area houses a number of major industries and attracts employees from the urban areas of Edmonton and the Capital Region.

This area indeed functions as a transition zone between the rural communities in Strathcona County and urban areas of the Capital Region. The Industrial Heartland is expected to grow and in turn create a more urban feel.

As part of our clarification we wish to advise that we have refined the Synchro analysis for the south leg approach for the Intersection of Highway 15 and Range Road 214 to reflect the addition of a taper length to separate left turn/through traffic and right turn traffic at this approach. Although a clear taper doesn't exist, it does function as a taper right turn on the ground. This additional modification will now result in a LOS "C" intersection approach for both the 2023 AM peak and 2033 AM peak scenarios – the only two temporary instances in the originally submitted TIA Report that resulted in LOS "D" ratings. Please note that the Synchro analysis that was included in the submitted TIA Report consisted of a single shared lane for the left/through/right movements. Sasol has revised the submitted TIA Report to reflect the above changes and the resulting improvements to the LOS approach for this intersection.

The revisions to the TIA Report also include the addition of the taper length as a mitigation measure that Sasol will undertake. Again, with the addition of this new mitigation measure all the approaches in all the studied scenarios achieve a LOS of "C" or better. Based on the large separation distance between the intersections, the intersection control has also been revised in the Synchro analysis from actuated coordinated to actuated uncoordinated, which also results in better LOS.

By way of additional clarification regarding LOS, we also wish to emphasize that the analyses showing intersection LOS "D" was for only two points of time in the 25-year period covered by the TIA analysis (the AM peak in 2023 and 2033 – in the case of 2023 this occurs because of the temporary alignment of construction of Phase 2 and the operational activity of Phase 1; in the case of 2033 this is the result of turn-around maintenance. Both scenarios allow for management flexibility in making adjustments to address any traffic concerns that will be better known nine or 19 years from today. At the moment, the projected traffic volumes are considered conservative.

3. The following information is provided to provide clarification for comments from AT with respect to railway traffic.

The Canadian Rail Operating Rules document TC O-0-167 (Section 103 (d)) published by Transport Canada, states that "no part of train movement may be allowed to stand on any part of a public crossing at grade, for a longer period than five minutes when vehicular or pedestrian traffic requires passage...When emergency vehicles require passage, employees must cooperate to quickly clear the involved crossings."

Therefore, based on a 5 minute delay due to the passing of a train across the north leg of the two studied intersections in the TIA Report, the critical movements that will be affected are the East Bound (EB) to North Bound (NB) movements as vehicles queue waiting for the road to clear of the train movement. Opus Stewart Weir undertook a queue length analysis for the maximum allowable five (5) minute time period for train crossing at the at-grade public crossings. This analysis has resulted in a maximum queue length of 622m at the intersection of Highway 15/Range Road 220, and 430m at the intersection of Highway 15/Range Road 214. The existing intersections are currently provided with dual left turn storage lengths (median/inside) of 620m

and 910m at the intersection of Highway 15/Range Road 220. The dual left turn storage lengths (median/inside) at the intersection of Highway 15 /Range Road 214 are 550m and 850m respectively. We therefore conclude that the existing intersection configurations have sufficient storage to accommodate the expected queues resulting from train crossings. In addition, with the rail pre-emption currently available at the traffic signals, safe and efficient traffic operations are expected at both the intersections.

Currently rail crossings north of the intersection of Highway 15/RR 214 and Highway 15/Range Road 220 consist of warnings signs (side and overhead lights) and gates. A rail crossing warrant as per Transport Canada Specifications, warrant warning signs and gates based on the criteria of close proximity to the railway lines. In addition, the AADT values on Range Road 214 also warrant warning signs and gates. Based on the above analysis, it is our conclusion that the existing railway crossings across Range Road 214 and Range Road 220 north of Highway 15 are sufficient to accommodate future traffic needs.

Sasol believes that should significant increases or changes occur to rail car volumes in the region in the 25-year horizon period covered by its TIA Report, this would be an issue that would have to be addressed on a regional basis with all stakeholders.

It is our hope that this additional information is helpful in addressing AT's requirements for the clarification on these three matters. Please do not hesitate to let me know if there is anything further you require.

Sincerely yours,



Mr. Mike Nel (Sasol Canada)
General Manager, Commercial

cc: M. Waterhouse (Sasol Canada)
K. Bradley (Sasol Canada)
P. Ngo (AT)
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Electronic copy of Revised TIA Report sent by courier