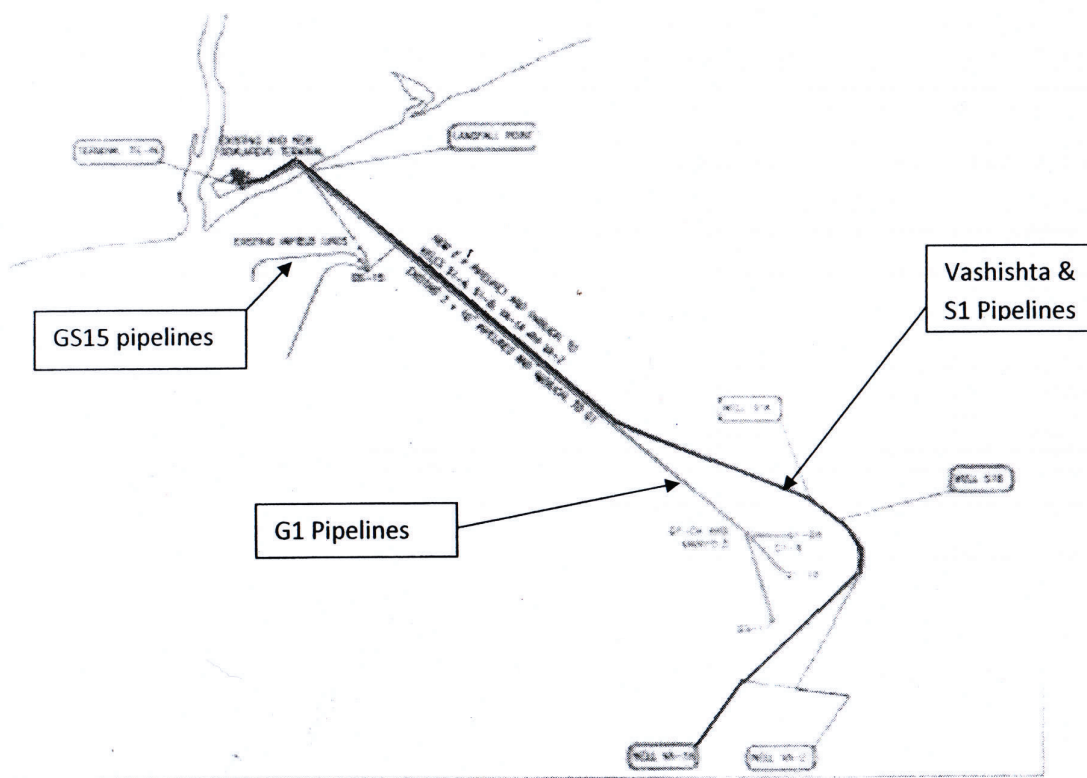


Detailed justification for laying the pipeline along the proposed route.



Vashishta & S1 fields are located to the south and east of G1 field and has a potential of 6 MMSCMD of gas. The dual pipelines of 10" each for the G1 field are already laid from subsea to Odalarevu Onshore Terminal.

- Since the Vashishta & S1 fields lie to the south & east of G1 field, the pipelines for Vashishta & S1 are to be laid to the east/north of existing G1 pipelines to avoid subsea crossings of the G1 pipelines.
- Laying the new pipelines to the south/west of existing G1 pipelines involves crossing of GS-15 pipelines near the shallow water and the pipeline will have to cross a steep surface feature near the Vashishta field itself and also will be lengthier. Subsea crossing of pipelines is to be avoided as this may lead to damaging the already laid pipelines of G1.


Hence it is imperative that the proposed pipeline is required to be laid to the east/north of the existing G1/GS15 pipelines up to landfall point and hence the proposed land fall point cannot be shifted towards west.

Shifting of proposed Landfall point to the east will actually increase the requirement of Reserve Forest area.

In order to avoid laying of pipelines in reserve forest area (245mx20m) along the existing G1 pipelines,

- The new pipelines has to cross the existing pipeline at two locations and will have to be laid *along the shore* and close to it for a minimum of 270 meters.
- For crossing the existing pipelines at two locations, the surface above the existing pipelines has to be strengthened to withstand the additional load of new pipelines. There is also the requirement that the new pipelines have to be covered by at least 2.5 meters from the top of the pipeline. This will result in creation of artificial mounds *along the shore for at least 40 to 50 meters*, which may expose the pipelines to tides as it is going to be close to the shore. This may jeopardize the stability and safety of pipelines and also an avoidable disfiguring of coastline.
- Landfall section of the pipeline has higher integrity requirements as far as safety and environment is concerned and the proposed route along the already laid G1 pipeline will minimize any safety / environment impacts.

Hence, the diversion of 0.490 ha (245m x 20m) of reserve forest land is unavoidable and is minimum as a passage for laying dual 14" pipelines and umbilical at a depth of 2.5 meter from the surface.


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