

## **Annexure -I**

The due processes of consideration expected on investment decision of a new line and commencement of work and incurrence of expenditure there on are:

*(Authority: Engineering Code and Financial Code of Indian Railways)*

The project should be developed through the following process:

- i) Preliminary investigation to determine how the line will fit with the general scheme of future Railway development.
- ii) Frame the objective of the Project
- iii) determine various option to meet the demand
- iv) Investigation of some selective alternatives through Reconnaissance survey and Traffic survey
- v) preparation of feasibility report indicating the technical and operational and economic feasibility of these alternatives
- vi) Evaluation of alternatives involving technical and operational feasibility. economic analysis, social profitability and financial appraisal
- vii) While doing so the parameters such as ruling gradient and degree of curvature should be decided taking into account the topography of the area, level of traffic, the speed envisaged, the mode of traction and above all the initial cost of construction and unit cost of service with different alternatives
- viii) Social benefits should be quantified with reasonable degree of accuracy. Assumption and reasons underlying any judgment about non quantifiable benefit should be clearly spelt out.
- ix) selection of scheme based on such an appraisal
- x) further detailed examination of selected alignment by conducting a preliminary survey upon which an abstract estimate is prepared in order to enable the authority competent to give administrative approval to the expenditure after forming a reasonably accurate idea of the probable expenditure and to gauge adequately the financial prospects of the proposal
- xi) Approval of Abstract Estimate by Competent Authority which is an Administrative sanction for investment on the project( can commence preliminary works like land acquisition and procurement of stores)
- xii) Final location Survey to secure the information necessary for the preparation of the detailed plan on which technical sanction of the project is given. Project Estimate/Detailed estimate should be prepared after a careful examination of the various details of construction so as to reduce to a minimum, the probability of omission of any item of expense which

is capable of being foreseen. The authority according technical sanction should satisfy itself that (i) the details of the scheme as worked out are satisfactory, (ii) the methods proposed for the execution of the work are adequate and (iii) the cost has been estimated from reliable data and is likely to be reasonably accurate.

- xiii) Approval of project estimate by competent authority
- xiv) Budget allotment for the work
- xv) Commencement of work

*The overriding principle of due consideration in respect of investment decision on a new line stipulated in Railway Engineering Code and Railway Financial Code are:*

- i) Alignment selection.

Gathering of maximum information that is relevant to achieve the objective set. Consideration of various alternatives and every related aspects with an open and transparent manner and find out the best in terms of economy, unit cost of service, technical and operational feasibility.

- ii) Commencement of work.

The commencement of work of a new line should be sanctioned by a competent authority only after satisfying that (i) the details of the scheme as worked out are satisfactory, (ii) the methods proposed for the execution of the work are adequate and (iii) the cost has been estimated from reliable data and is likely to be reasonably accurate. In short he should have an assurance on the constructability, stability, maintainability of the structures to be made on the elected alignment and cost of construction.

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## Annexure II

### Statement showing various alignment options proposed through Eastern Corridor and Western Corridor

S.No.	Details	Alignment recommended by RITES 1 to 50 (C) Eastern Corridor (RITES -1986)	Alternative I 1 in 40(C) Eastern Corridor considered as per DPR	Alternative II 1 to 100 (C) Eastern Corridor considered as per DPR	Selected alignment through Western Corridor. (NRly)	Another Possible alternative available in Western Corridor 1 to 50(C) (Later suggested by KRCL)
1	Total length	150.75 Km	122.59 Km	198.10 Km	167.60 Km	71.5 Km*
2	No. of curves	118	108	174	84	
3	Length of curves	51.909 km	44.06	60.238 km	44.87KM	N.A.
4	Sharpest degree of curvature	6	6	6	2.75	2
5	No of 6 degree curves	61	N.A.	46	N.A.	N.A.
6	No. of tunnels	103	96	112	81	4
7	Total length of tunnels	84.15 km	87.04	100.75 km	87.2Km	68Km
8	Major tunnels I) Chineni II) Banihal	14.08 km 9.95 km	14.08 Km	15.62 km 10.25 km	10.03	36.50 KM (Tattapani-Qazigund)
9	No. of major bridges	45	39	67	69	3
10	No. of ROB/RUB	5		12		
11	Cost **	Rs. 778.94 crore		Rs. 1117.32 crore.	Rs.2415.14crore	Rs. 6153.00 crore
12	No of Station	14	10	16	14	7

\* *Katra –Qazigund (excluding 30 Km from Udampur-Katra)*

\*\* *The estimates pertain to different time period.*