

*** IN THE HIGH COURT OF DELHI AT NEW DELHI**

% Date of decision: September 24, 2019

+ O.M.P. (COMM) 344/2019, I.As. 11958-11959/2019

NATIONAL HIGHWAY AUTHORITY OF
INDIA

..... Petitioner

Through: Ms. Asha Gopalan Nair and
Ms. Nivedita Nair, Advs.

versus

RAYALSEEMA EXPRESSWAY PRIVATE
LIMITED

..... Respondent

Through: Mr. Dayan Krishnan, Sr. Adv. with
Mr. Priyabrat Tripathy, Mr. Sanjeevi
Sheshdhari, Ms. Surabhi Pandey and
Ms. Niharika Kaul, Advs.

**CORAM:
HON'BLE MR. JUSTICE V. KAMESWAR RAO**

V. KAMESWAR RAO, J. (ORAL)

I.A. 11959/2019

Exemption allowed subject to all just exceptions.

Application stands disposed of.

O.M.P. (COMM) 344/2019

1. The challenge in this petition under Section 34 of the Arbitration & Conciliation Act, 1996 (for short 'Act of 1996') by the National Highways Authority of India is, to an Award dated May 02, 2019 whereby the Arbitral Tribunal has allowed the claims of the respondent herein.

2. The brief facts, which are necessary for the adjudication of this case is that the petitioner NHAI issued a tender in July 2008 seeking bids from eligible bidders for "Design, Engineering, Procurement, Construction and Maintenance of four Laning of Cuddapah-Kurnool section of NH-18 from the existing KM 167+750 to KM 356+205" on BOT basis. A consortium comprising of KMC Constructions Pvt. Ltd. And IVRCL Infrastructure and Projects Ltd. (for short 'Consortium') with KMC Constructions Pvt. Ltd., as its lead member participated in the tender and after being selected as the successful bidder, was issued a Letter of Acceptance dated February 26, 2019 by the petitioner NHAI. A Special Purpose Vehicle i.e M/s Rayalseema Private Limited was incorporated and Concession Agreement was entered into for the project highway with the petitioner on February 11, 2010 for execution of the project. The concession was granted for thirty years including a construction period of 910 days commencing from the Appointed Date communicated as November 15, 2010 and ending on November 14, 2040 during which the Concessioner i.e the respondent herein was authorized to undertake construction and operation of the project highway in accordance with the provisions of Concession Agreement. The petitioner agreed to provide cash support by way of grant for ₹621.9 Crore which was to be paid to the respondent by way of Equity Support.
3. M/s Aarvee Associates Architects Engineers and Consultants Pvt. Ltd., Hyderabad was appointed as an Independent Engineer under Clause 23 of the Concession Agreement.
4. During the course of construction of the project highway, certain disputes arose between the parties and they were referred for conciliation for amicable settlement pursuant to Clause 44.2 of

Concession Agreement. Since amicable solution could not be found, the following issues were referred for Arbitration pursuant to Clause 44.3 of Concession Agreement. The issues referred are:-

a. Change of Scope arising out of construction of Kundu Bridge at km 290+335.

b. Change of Scope arising out of Construction of Yerraguntla ROB at km 290+783.

c. Change of Scope arising out of construction of Guntakal ROB at km 290+986.

d. Change of scope arising out of construction of Viaduct approaches to the structures in the reach from km 290+360 to km 291+570 instead of RE wall on Kurnool side of the Kundu Bridge.

5. The respondent submitted its statement of claim on April 09, 2018 followed by a hard copy sent through courier. The petitioner herein submitted the statement of defence on September 05, 2018. The respondent submitted a rejoinder on November 21, 2018. On the aforesaid claims / issues, the conclusion of the Arbitral Tribunal is as under:-

Claim No.1: Change of Scope arising out of construction of Kundu Bridge at km 290+335:-

2.12 (a) *The Arbitral Tribunal concludes that original proposal submitted by the Claimant before introduction of new Railway Over Bridge (ROB) for Nandyal- Yerraguntla railway line with deck slab level at A1 as +204.414 and at A2 as +205.417 for which detailed*

design and drawings were approved by the Independent Engineer vide letter no. AA / Nandyal / CK08.2/153, dated 19-11-2010 which is in accordance with Schedule-B and in conformity with the Specifications and Standards set forth in Schedule-D 'of Concession Agreement shall be taken as base line for working out the initial cost of bridge. The final bridge cost shall be taken as final design and drawings with 12 spans of 26 m each with deck slab level at A1 as +208.285 and at A2 as +213.635. The difference in cost of bridge due to above two proposals shall be taken as Change of Scope. On 21/12/2012 (Annexure- C17, P. No. from 76 to 77 of SOC), the Claimant submitted its COS proposal for ₹ 5,18,50,238/- comparing the cost of bridge with 8 spans as approved on November 19, 2010 and bridge with 12 spans as approved on January 06, 2012 by the Independent Engineer. Hence considering this ₹5,18,50,238/- as the eligible amount for Change of Scope and after deducting the already approved amount of ₹3.12 Crore by the Respondent, the balance amount is coming to ₹2,06,50,238/-. This balance amount has been claimed by the Claimant.

b) The total eligible Change of Scope amount for construction of bridge across Kundu River at Km 290+335 is ₹5,18,50,238/-. The Respondent already approved ₹ 3.12 Crore towards the Change of Scope. With the above conclusions, the Arbitration Tribunal thus awards the balance amount of ₹2,06,50,238/- in favour of the Claimant towards this claim.

Claim No.2 : Change of Scope arising out of Construction of Yerraguntla ROB at km 290+783 of NH-18 on Nandyal Bypass:-

3.9.1 The Arbitral Tribunal concludes that the unit cost for Structural Steel Girder arrived by the information collected by the Respondent from Railway works at ₹97,800/- per Metric Ton for procurement, fabrication and erection without considering overheads and profit is taken as base rate. For this base rate adding the overheads and the profit at 25% and 10% respectively as per "Ministry of Shipping, Road Transport & Highway (MoRTH) Standard Data Book for Analysis of Rates", for construction of Major Bridges including State of Art Bridges and Minor Bridges and arrived total unit cost of Structural Steel Girder at ₹1,34,475/- per Metric Ton as against claim of ₹1,62,285/- per Metric Ton. The total quantity of Structural Steel is 922.8 Metric Tons.

3.9.2 With the above conclusions, the Arbitral Tribunal thus awards an amount of ₹1,79,71,530/- for the item of Structural Steel Girder for ROB as Change of Scope under this claim as against the amount claimed for ₹4.36 crore by the Claimant.

Claim No.3:- Change of Scope for construction of Guntakal ROB at KM 290+986 of NH-18 of Nandyal Bypass.

4.7.1 The Arbitral Tribunal concludes that the Change of Scope shall be arrived by taking the base proposal cost of ROB structure with Schedule-B proposal and compared with the total changes occurred in ROB at Km 290+986 due to introduction of new ROB at Yerraguntla, increase in rail level for Yerraguntla railway line, change of specification from PSC girder to Composite Steel Girder and increase in length of bridge from 84 m to 112 m as per approved GAD of Railway Department. The total cost of ROB shall be arrived duly considering the

cost due to foundations, substructure and superstructure with the above four changes mentioned above. The Structural Steel Girder cost shall be taken as ₹1,34,475/- per Metric Ton. Cost of the revised estimate submitted by the Claimant through its letter dated November 21, 2016 (Annexure-C38, P. No. 219 to 313 of SOC) was ₹24,56,28,148/- . In this estimate, rate for structural steel was considered as ₹1,62.285/- per MT. Now after modifying this rate as ₹1,34,475/-, the estimated cost works out to ₹20,82,76,755/-.

4.7.2 With the above conclusions, the Arbitral Tribunal thus awards an amount of ₹20,82,76,755/- for Change of Scope for ROB at Km 290+986 under this claim as against ₹24,56,28,148/- claimed by the Claimant.

Claim No.4: Change of scope arising out of construction of Viaduct from KM 290+360 to KM 291+571

5.9.1. The Arbitral Tribunal concludes that the construction of RE wall near water bodies / flood zone area as per SP:84-2009 Manual is' not advisable for the revised profile in this reach for the safety of the structure in public interest and hence construction of Viaduct for the approaches is recommended. The construction of approaches in the reach where height is less than 13.2 m shall not be considered for the Change of Scope as the same is to be constructed by the Claimant as per the Concession Agreement conditions. But in this reach, the cost effect due to initial and final profiles shall be compared in both the case's with RE wall with free embankment and the same shall be considered in the Change of Scope. The reach where the height of approaches is more

than 13.2 m, the initial profile shall be taken as RE wall with free embankment as per the Schedule-BI and final profile shall be taken as Viaduct. The difference in cost is considered as Change of Scope. The calculations in this regard are enclosed as Annexures-V-A and V-B.

5.9.2. With the above conclusions, the Arbitral Tribunal thus awards an amount of ₹28.971 Crore as Change of Scope under this claim as against ₹38.014 Crore claimed by the Claimant.

6. I may state here that the Tribunal has granted interest to the respondent calculated from February 28, 2018 till April 30, 2019 and also future interest till the date of the payment.

SUBMISSIONS:-

7. The following are the submissions of the learned counsel for the petitioner on each of the claims:-

Claim No.1:-

8. It is the submission of learned counsel for the petitioner that the Concession Agreement provides at Appendix-BX, Schedule B the span arrangement for major bridge at Km 290.305 as 8x26m along with a footnote that the arrangement was tentative. Only upon consultation with Irrigation Authorities and Railway Authorities the Plan & Profile drawings from Km 289+000 to Km 292+000 were to be finalised and Kundu Bridge was to be designed.

9. It is also her submission as per the Concession Agreement, the additional works at Kundu River Bridge viz. increase in the length of the bridge, number of spans, re-gradation of river bed and increase in the height of the bridge has not been considered as change of scope by IE,

as the responsibility of designing the structure meeting the requirements of specifications and the requirements of Irrigation Authorities lies with the respondent and it is categorically stated in Schedule B that any change in the span arrangement shall not be treated as change of scope which the learned Arbitral Tribunal has totally ignored. The respondent submitted claim amounting to ₹5.18 Crore towards change of scope. The Authorities evaluated the claim and recommended for issuance of COS Notice/Order for an amount of ₹2.52 Crore towards (a) Increase in number of spans from 8 to 12; (b) Change in gradient of deck on account of increase in the elevation of adjacent ROB's, which was subsequently approved by the Competent Authority.

10. However, the respondent claimed that the effect of increase in the deck level in the 8 span portions has not been included in the assessment of Change of Scope. Due to increase in length of bridge, the respondent has furnished the Change of Scope proposal for an amount of ₹2,36,60,888/- for approval. It is her submission that it is the case of the petitioner that the deck levels 204.414m to 205.218m cannot be treated as reference deck levels for calculation of Change of Scope, and the revised level of 208.262m only should be considered. The dispute notice issued by the respondent is in violation of the Concession Agreement dated February 11, 2010 and the Supplementary Agreement dated December 11, 2015. She submits that the Arbitral Tribunal ought to have considered that Appendix BXIII of Schedule-B of Concession Agreement provides the details of proposed ROB's. As per the Schedule, the ROB at Km 290+960 is to be constructed with a span arrangement of 3x28m. Further, as per Clause 4.12 of Schedule-B, the proposed span arrangement of the ROB's is tentative and subject to

change as per availability of railway boundaries / requirement of Railways. The Railway Authorities generally require change in the span arrangement to suit their Right of way, the existing track, future track and suggest obligatory spans etc, if required which has been ignored.

CLAIM No.2

11. It is her submission that as per Schedule-B of the Concession Agreement, the Yerraguntla ROB at Km.290+783 of Nandyal - Yerraguntla line is not included in the scope of project. A new ROB was introduced at Km 290+783 over the proposed Nandyal- Yerraguntla line with a span configuration of 2x38.5m + 1x22m as per requirement of Railways. A joint inspection was conducted with the Railway Authorities in April, 2011 and it was found that the Project Highway crosses the existing Guntur - Guntakal broad gage line and the proposed Nandyal – Yerraguntla broad gage line at Km.290+986 and Km.290+783 respectively. Accordingly, the Railway Authorities finalized the span arrangement to cover the existing and future tracks and approved the GAD, which resulted in an increase of 127m in the length of the structure over and above the provision of Concession Agreement. In view of the above, the Independent Engineer recommended for issue of Change of Scope notice to the respondent for construction of the ROB's as per GAD approved by Railways. It is her submission that the respondent submitted a detailed estimate for an amount of ₹37.27 Crore for the structure at Km 290+783 (new proposal) as per the approval of GAD by the Railway Authorities including the additional cost due to the railways proposal for increase of rail level from 207.276m to 209.413m, for the ROB at Km.290+783. The

Independent Engineer did not consider the charges payable to Railways as the opinion of Independent Engineer is that, these should be dealt separately and should not be included in Change of Scope. Hence, while finalizing the estimate, the difference in cost due to provision of composite section for superstructure as compared to PSC section as per Appendix-BXIII of Schedule-B of Concession Agreement has been considered. It is her submission that the Competent Authority has accorded in-principle approval for issue Change of Scope order to the respondent for construction of the new ROB at Km.290+783 for an amount of ₹18.07 Cr., which was communicated to the respondent. It is her submission that the Ld. Arbitral Tribunal in view of the above, failed to consider that the Change of Scope estimate was signed by the respondent representative as a token of acceptance before recommendation from the petitioner vide letter dated December 30, 2013 to its Competent Authority for approval. Further, it is her submission that the Ld. Arbitral Tribunal failed to consider that the Supplementary Agreement was signed by the parties on December 11, 2015, and it was agreed by the respondent that it shall complete COS-I, COS-II & COS-III works without claiming none other than the amount determined by Independent Engineer following the principles given in 'in-principle' approval / COS order of cost of COS by petitioner. The petitioner had reviewed the submission and assessed the cost of providing a new ROB as ₹18.52 Crore and recommended for approval of Competent Authority. The Authority subsequently issued COS Order for an amount of ₹18.52 Crore towards the same. It is her submission that the respondent had wrongly disagreed with the rate of structural steel considered by the Independent Engineer and issued dispute notice

in violation of the Concession Agreement dated February 11, 2010 and the Supplementary Agreement dated December 11, 2015. That the Arbitral Tribunal has failed to consider that the Independent Engineer vide his letter dated January 30, 2013 had finalized the cost at ₹2.52 crores against the respondent's claim of ₹5.18 Core and informed the following reasons for the reduction in cost.

"Claimant had compared the cost with his earlier drawing for which Irrigation Authorities objected and insisted on regarding the bed level by 2.5m and increase in number of spans. However in IE opinion, any change in the height of the structure due to increase in design discharge or regarding of the bed shall not be a Change of Scope. Hence the IE has arrived at the net implication by calculating only the net impact of increase of four spans and three piers as per final design.

The Claimant claimed for increase in quantities due to decision of Railways for increase in rail top level. As there is no approved GAD provided in the Bid document/Schedule-B, the base document on which the Claimant claims to have submitted the bids cannot be considered as justified and hence his claim is not accepted.

New ROB structure has been introduced at Km.290+783. On account of this new structure, the profile had to be modified between the Kadapa side Abutment of new ROB and the Kundu Bridge duly complying with the permissible limits of longitudinal gradient. On account of this, Piers and Abutment of Kundu Bridge had to be raised. Hence, the effect in increase of height of all the piers and Abutment (Kurnool side), due to introduction of new ROB structure at Km.290+783 have been considered as Change of Scope".

12. It is her submission, the Arbitral Tribunal failed to consider that the Executive Committee in its 147th Meeting dated May 24, 2013 has approved in-principle an amount of ₹2.52 Crore for provision of 4 numbers of Additional Spans for Kundu Bridge @ Km.290+305 subject to verification of reasonableness of cost estimate/rate analysis by RO / PD and subsequently by 3GMs Committee before taking approval of detailed estimate. The same has been communicated to the respondent vide letter June 06, 2013 and requested to submit the consent of respondent, that there will be no increase in construction period. But, there was no correspondence from respondent since 2013 and finally vide letter dated July 12, 2016, the respondent has informed that the Change of Scope proposal made by them for ₹5.18 Crore may be considered and accordingly the COS order issued for ₹2.52 Crore may be revised and communicated, which has not been considered.

13. It is her submission that the Arbitral Tribunal failed to consider that the proposal furnished by the respondent was reviewed by the Independent Engineer and the Independent Engineer vide letter dated July 30, 2016 has stated as under:-

"As per Schedule B of Concession Agreement, the location of proposed Kundu Bridge falls in the realignment stretch. The existing bridge is on upstream side, where the width of the waterway is 190m and on downstream side of the proposed bridge width of the waterway is about 300m.

Appendix-BX of Schedule-B specifies a span arrangement of 8x26m for the bridge. Further, the note under the table states that the proposed span arrangement is tentative and the same shall be finalized in consultation with the Irrigation Authority & IC. Any change in span arrangement shall not be treated as Change in Scope of work.

Initially the IE has reviewed the Design & Drawings submitted by the Claimant for their conformity with specification and standards and found them to be in order. However, during the consultation with the Irrigation Authorities it transpired that the no. of spans has to be increased to 12 nos. instead of 8 nos. as per the Agreement to cater to the discharge. Further, the Irrigation authorities advised the Claimant to take adequate care in their designs so that the foundation levels are not exposed after re-grading.

Meanwhile, the Railway Authorities have communicated the approval of GADs for ROB at Km.290+783 and Km.290+986. The approval included construction of new ROB @ Km.290+783 over the proposed Yerraguntla line on account of the proposed construction of ROB over Yerraguntla line the superstructure of Kundu Bridge had to be redesigned in gradient to match with the Highway profile at the subject location, which resulted in increase the height of the structure.

Accordingly, IE have recommended the proposal of the Claimant for issue Change of Scope on account of the following;

- a. Construction of additional length of the bridge to cater the requirements of Irrigation Authorities.*
- b. The increase in height of the bridge due to introduction of new ROB and revision of the profile.*

Further, the IE has taken a view vide their letter No.236 i.e., the increase in height of structure due to the proposed regarding of bed levels has not been considered as Change of Scope by IE, since the responsibility of designing the structure meeting the requirements of specifications and the requirements of Irrigation Authorities lies with the Claimant

and it is categorically stated in Schedule B that any change in the span arrangement shall not be treated as change of Scope and the request of the Claimant has not been justified by the Independent Engineer.”

14. The learned Arbitral Tribunal has failed to consider that the dispute notice issued by the respondent is in violation of the Concession Agreement dated February 11, 2010 and the Supplementary Agreement dated December 11, 2015 and also in view of the following facts:

(i) The land for the above project has already been handed over to the respondent on July 28, 2011.

(ii) As per the Supplementary Agreement dated December 11, 2015 the respondent stated that he shall complete the Project by August 01, 2016 including the ROB's.

(iii) The respondent was under immense financial constraints, mobilization of poor man power and machinery at site.

15. That the Arbitral Tribunal has failed to see that the Independent Engineer has considered ₹1,15,000/- per MT towards supply, fabrication, erection / launching of composite steel girder, whereas respondent claimed ₹1,62,285/- per MT. The detailed observations in this regard are as under:-

“(a) The rates provided by South Central Railway for one of its tenders for supply, fabrication, erection / launching (enclosed as Annex.-I) of composite steel girder are as follows:

i. Rate for Supply of Structural Steel ₹55,300/per MT

ii. Rate for fabrication, erection/launching of

Composite Girder ₹42,500/per MT

(b) As per their practice, the above rates are same for any tenders and the Contractor has to quote at par / above / below the rates specified above. As per data collected from railways at that time, one project was awarded at 15% above the rate for supply, 21% above the rate for

fabrication, erection & launching which worked out to be ₹1,15,020/-, which was already produced above.

(c) We have also traced three work orders given in 2014 and found that the works were awarded at around 16% and 18% above the scheduled rates for supply, fabrication, erection & launching respectively. The details of the three contracts and the consolidated rate for composite girder are as follows:

	<i>Rate for Supply of Structural Steel</i>	<i>Rate for fabrication, erection / launching of Composite Girder</i>	<i>% rate quoted above Schedule-D</i>	<i>% rate quoted above Schedule-E</i>	<i>Final rate for Supply fabrication, erection / launching of Composite Girder</i>
<i>Contract-I</i>	<i>₹55,300/- per MT</i>	<i>₹42,500/- per MT</i>	<i>16%</i>	<i>32%</i>	<i>₹1,20,248/- per MT</i>
<i>Contract-II</i>	<i>₹55,300/- per MT</i>	<i>₹42,500/- per MT</i>	<i>12%</i>	<i>18%</i>	<i>₹1,12,086/- per MT</i>
<i>Contract-III</i>	<i>₹55,300/- per MT</i>	<i>₹42,500/- per MT</i>	<i>15%</i>	<i>18%</i>	<i>₹1,13,745/- per MT</i>

It may be seen from the above that the rates are collateral with the rate of ₹1,15,000/- recommended by us.

(d) In another contract the South Central Railway has awarded a contract where the rate for supply, fabrication, erection/launching was quoted as ₹1,16,587/- per MT, which is deemed to include overheads & profits. So, in our opinion the rate recommended by us for the composite girders in ROBs seems in order.

(e) The Claimant (respondent) in his rate analysis has submitted that the cost of supply of structural steel is ₹94,200/- per MT, where as market rate as per AP SSR 11-12 was ₹43,000/- per MT and market rate collected from SAIL during 2011-12 was ₹41,000/- per MT which corresponds well with the rate provided in SSR. It may be seen that we have considered higher rate than the market rate as per the estimate of

SCR for relevant structure.

(f) The cost of assembling & erection claimed by the Claimant (respondent) is ₹13,095/- per MT, which is much lower than the rate considered by us for fabrication, erection & launching (₹42,000/- per MT). Seemingly, the cost of structural steel provided by the Claimant (respondent) includes rate of fabrication and hence, is higher than the rate considered by Railways for supply.

We have adopted an alternative approach for calculating the rate of composite girder as under for the purpose of cross verification:

a.	Basic rate from SAIL (2011-12)	: ₹41,000/- per MT
b.	Add 5% extra for wastage	: ₹ 2,050/- per MT
c.	Total for supply of Steel	: ₹43,050/- per MT
e.	Add 75% towards fabrication, erection / launching	: ₹32,287/- per MT
f.	Total for supply, fabrication, erection / launching	: ₹75,337/- per MT
g.	Add 25% for overheads	: ₹18,834/- per MT
h.	Add 10% over f & g	: ₹9,417/- per MT
i.	Rate for composite girder	: ₹1,03,588/- per MT

** The rate for fabrication, erection / launching compared by railways is 75% of the rate of supply and the same has been used for calculation.*

It is worth mentioning that MoRTH Data Book does not contain data for structural steel. Hence in the opinion the rate of ₹1,15,000/- per MT considered by us for composite girders is in order and need not be revised.

"Subsequently, in all the work done bills submitted by the Claimant (respondent), the rate approved in the COS for the subject item of work has been considered by Claimant (respondent).

As such, after the above Agreement / Correspondences / approvals & release of payments, Claimant (respondent) disagreement on the approved rate for steel girder is not justified and cannot be accepted and the request for re-consideration of rate for steel girder proposed by the Claimant (respondent) cannot be processed.

(g) That the Hon'ble AT failed to consider that the Supplementary Agreement No.1 & No.2 was executed between the Respondent National Highways Authority of India and Claimant (respondent) MIs. Rayalseema Expressway Pvt. Ltd., on 11.12.2015 regarding waiving off any claim on NHAI.

(h) The Hon'ble AT failed to consider that the Claimant (respondent) vide his letter no. 4673, dated.27.07.2017 issued a Dispute notice to the NHAI on Change of Scope for ROB at Km.290+783 (Yerraguntla line) on Nandyal Bypass under Article 44 of Concession Agreement which is untenable and is in violation of the above Supplementary Agreement dt.11.12.2015 and other relevant clauses of the Concession Agreement dt.11.02.2010.

(i) That as per the Supplementary Agreement MIs. REPL & NHAI dated 11.12.2015, the Claimant (respondent) had stated that he shall complete the project by 01.08.2016 including the ROB's which he failed to do so."

That the learned Tribunal on facts failed to see that the respondent due to financial constraints and poor mobilization of man power and machinery at site, failed to perform as per the agreement.

CLAIM No. 3:-

16. It is the submission of the counsel that as per Concession Agreement, the respondent was required to construct an ROB of 19.5 m width with 3x28m span configuration and PSC superstructure over Nandyal - Guntakal (NDL-GTL) railway line at Km 290+980 in Nandyal Bypass. However, Railways sought and approved a GAD with

2x38.5 m + 1x35 m span configuration with a width of 20 m and Composite girder superstructure. Further, a new ROB was proposed over the Nandyal - Yerraguntla (NDLYGL) line, a new line planned adjacent to the existing line. The rail level of the new ROB was raised by 2.137 m more than the existing track level of the Nandyal - Guntakal line, which necessitated an increase of the FRL of ROB proposed over the existing Nandyal - Guntakal railway line. The respondent had submitted a cost implication of ₹24.56 Crore on account of the following changes in Scope and requested petitioner to issue a COS notice:

1. Increase in overall length of ROB from 84 m to 112 m due to change in span configuration.
2. Change in type of superstructure from PSC to composite girder.
3. Increase in width of main carriageway from 19.5 m to 20.0m.
4. Increase in the height of ROB, due to the increase in the FRL of the new ROB on the newly proposed Nandyal - Yerraguntla line, adjacent to the existing track.

17. It is her submission that the Arbitral Tribunal failed to see that Independent Engineer recommended an amount of ₹13.42 Crore towards the Change of Scope considering the items from (a) to (c) in para 2 for issuance of Change of Scope notice of petitioner letter dated April 28, 2016. However, the Competent Authority has not communicated approval for the above. Subsequently, petitioner had allowed increase in overall length of ROB as COS, and issued a Circular – Technical (206/2016), dated May 02, 2016 as a common policy.

However, there was no specific opinion/directions in the above Circular about considering the 'change in type of superstructure' as Change of Scope. The respondent raised a dispute for not issuing Change of Scope Notice and claimed an amount of ₹24.56 Crore towards changes as mentioned in para 2 for issuance of Change of Scope Notice of petitioner letter dated April 28, 2016. The respondent also raised dispute on the rate considered by Independent Engineer for structural steel and also claimed that Independent Engineer had not considered overheads and profits as per the MoRTH standard data book for major structures. Petitioner's detailed observations in this regard are as under:-

(i) Change of Scope on account of increase in overall length of ROB is admissible as per the provisions of Concession Agreement and also as per the NHAI Circular – Technical (206/2016), dated 02.05.2016. They have already recommended an amount of ₹5.77 Crore towards change in length vide our letter no. 4785, dated 23.09.2016.

(ii) The change in type of superstructure from PSC to composite girder is a change of scope as per provisions of Concession Agreement, in our opinion. However, NHAI Circular - Technical (206/2016), dated 02.05.2016 is silent on this aspect. They have recommended change of scope towards change in type of superstructure vide our letter no. 236, dated 30.01.2013.

(iii) Change of Scope on account of increase in overall width of ROB is admissible as per provisions of Concession Agreement and they have recommended change of scope towards change in length vide our letter no. 236, dated 30.01.2013.

(iv) Normally, 'any increase or decrease in permissible vertical clearances, change in existing rail levels, change

in type of superstructure on account of change in span arrangement etc.', affects the FRL of the ROB. In their earlier determination they have not considered the effect of increase in height of ROB that resulted due to inclusion of a new ROB at a higher FRL, at a distance of 95.24 m from the ROB under discussion. During the deliberations 'at NHAI-HQ on 17.10.2017, the respondent has requested the Authority and IE to review the decision as the increase in height is due to a new ROB, which was not foreseen in the Contract. They have reviewed their recommendation and opine that the increase in height can be considered as Change of Scope and assessed an amount of ₹50,88,308/- as a cost implication towards increase in height. The increase in height of superstructure was determined by calculating the difference between current vertical clearance (9.166 m) and the earlier vertical clearance 6.25 m, which is the minimum clearance required by railways.

(v) Rate of structural steel: The respondent submitted the rate of structural steel as ₹1,62,285/- per MT, whereas they had recommended a rate of ₹1,15,000/- per MT, which was subsequently approved by the Authority. A detailed clarification was communicated by petitioner vide their letter no. 1051, dated 03.11.2017, clearly justifying the rate of steel girder as ₹1,15,000/- per MT. They request to refer the above letter in this regard.

(vi) Overheads & Profit: Respondent has considered 25% overheads and 10% profit in carrying out rate analysis for all the items in the Change of Scope estimate."

She submits, in view of the above, Independent Engineer finally recommend to the Authority to issue Change of Scope Notice for an amount of ₹13,98,78,294/-, towards increase in overall length, change in type of superstructure, increase in width and increase in height of ROB. Further, a Supplementary Agreement No.1 & No.2 was executed

between the petitioner and the respondent on December 11, 2015 waiving off all the claims. As per the Supplementary Agreement dated December 11, 2015, the respondent has stated that it shall complete the project by August 01, 2016 including the ROBs. She submits, in view of the forgoing facts, due to financial constraints of the respondent and poor mobilization of man power and machinery at site, the respondent is not eligible for the claim in toto.

CLAIM No. 4:-

18. It is the submission of the learned counsel for the petitioner that the notice of dispute issued by Claimant / respondent on account of the revision of profile from Km.290.375 to Km.291.650 and the resultant effect on the earth retaining structures in the approaches of 2 ROB's, 1VUP and Kundu Bridge. She submits:-

(i) The above stretch from Km.290+375 to Km.291 +650 falls in the green fields Nandyal bypass, and the respondent was required to build 3 structures namely a bridge over Kundu River hereinafter referred to as "Kundu Bridge", an ROB over Nandyal - Guntakal railway line herein after referred to as "Guntakal ROB" and a VUP over a MDR.

(ii) During the course of execution, the following changes occurred in the above stretches from Km.290.375 to Km.291.650

a. As per the requirement of the Irrigation Department and the hydrological studies, the span configuration of Kundu Bridge was revised from 8 x 26.0 m to 12 x 26.0 m.

b. As per the requirement of Railways a new ROB was introduced on the Nandyal – Yerraguntla railway line at

*Km.290.783 with a span configuration of 1x22.0m + 2x38.5 m.
(hereinafter called as "Yerraguntla ROB")*

19. The exact location of the structures and other details are presented in the following table:

S. No.	Description	Start Chainage	End Chainage	Location.
1	Kundu Bridge	Km 290.63	Km 290.35	Km 290.63
2	Yerraguntla ROB	Km 290.740	Km 290.840	Km 290.63
3	Guntakal ROB	Km 290.930	Km 291.040	Km 290.63
4	VUP	Km 291.350	Km 291.362	Km 291.356

(iii) Consequent to the changes listed in para 2 above, further changes became necessary in the profile:

- a. Due to the revised span configuration, grading & free board of Kundu Bridge as required by Irrigation Department, it's FRL was raised above the one foreseen in DPR.
- b. Due to the inclusion of the Yerraguntla ROB, the FRL of the Guntakal ROB was raised.
- c. Due to the geometric requirements between the Kundu Bridge and Yerraguntla ROB, the Kundu Bridge profile was revised to be "in gradient".

The above changes altogether resulted in change of profile in the stretch under reference from Km 290.375 to Km 291.650.

(iv) The location of the structures, their overall lengths and the details of the approaches are furnished in the following tables:

Details of structures:

Sl. No.	Description	Span Configuration (m.)		As per Final Profile	
		As per CA	As revised	Start Ch.	End Ch.
1	Kundu Bridge	8x26.0	12 x 26.0	290.63	290.375
2	Yerranguntla ROB	Not Applicable	1 x 22.0 + 2x 38.5	290.740	290.840
3	Guntakal ROB	3x 28.0	2.38.5 + 1 x 35.5	290.930	291.040
4	VUP	1 x 12	1 x 12	291.350	291.362

Details of Approaches:

Sl. No.	Description	Start Chainage	End Chainage	Identification
1	Kundu – Yerranguntla approaches	Km 290.375	Km 290.70	Approach – 1
2	Yerranguntla – Guntakal approaches	Km 290.840	Km 290.30	Approach – 2
3	Guntakal – VUP – end of Bypass	Km 291.040	Km 291.650	Approach - 3

(v) As per the TCS given in Concession Agreement (Ref: Clause 4.1, Appendix-BI of Schedule-B), the approaches of the above structures (ROBs/NUPs) should be built with full height RE walls and not of 'partial height with sloped embankment'. The respondent submitted the designs accordingly for the clearance of IE and the IE had cleared the same with comments vide letter No.2573 (Annex.-C116) dated 03.12.2012. IE had cleared the TCS with straight vertical RE walls at the end of paved shoulders.

(vi) Due to various reasons explained in para 2 & 3 the vertical profile got revised and the height of RE wall had increased beyond the height envisaged in DPR. The respondent claimed that construction of RE wall is not feasible for the increased height and proposed a Viaduct

from Km 290.375 to Km 291.650 under change of scope and submitted the cost implication as ₹38.014 Crore.

(vii) IE reviewed the above proposal as per Clause 2.9 of 4-laning manual, which is part of Schedule-D of Concession Agreement and opined that the respondent can submit alternate designs and the viaduct proposal may be accepted as an alternate design, without any additional cost to the Authority.

(viii) Simultaneously, IE had also assessed the cost implication due to increase in the height of RE wall as ₹3.81 Crore and recommended for the approval of competent Authority. Subsequently, the Authority had issued the COS order for an amount of ₹3.56 Crore towards the same.

(ix) The respondent issued a dispute notice in disagreement of the decision. Based on the subsequent discussions held at NHAI Head Quarters on 17.10.2017 among the Authority, respondent and IE, the IE had agreed to review the cost implication on account of the Change in the vertical profile in the above section.

(x) The respondent vide letter no.4786, dated.31.10.2017 submitted a claim on account of the revision of profile in the above stretch from Km.290.375 to Km.291.650 as ₹47.17 Cr. using RE Wall and Stone Columns as ground improvement and submitted a revised claim vide letter no.4812, dated.30.11.2017 for amount of ₹57.21 Cr. on the same account. The respondent above claims were reviewed and the details are presented in the subsequent paragraphs.

After reviewing the Concession Agreement / DPR profile and the final profile in the above stretches, the details of the original heights of RE walls and the revised heights in various sections were deduced and presented in the following table:

Approaches	Maximum Height from OGL (m.)			Average Height (m.)		
	As per DPR	Revised	Increase	As per DPR	Revised	Increase
Approach- 1	12.992	16.740	3.748	11.013	15.206	1.193
Approach - 2	13.559	17.763	4.164	12.970	17.098	4.128
Approach - 3	12.386	17.343	4.957	7.686	11.304	3.618

(xi) The TCS submitted by the respondent for the clearance of IE vide letter no.2573 (Annex.-C119), dated 03.12.2012 was cleared by IE with full height RE Wall up to 13.60 m, and partial height RE Wall up to 18.00 m. She stated, from the above it is seen that the maximum height as per the revised profile is 17.763 m and submitted / cleared section is applicable for this height.

(xii) That RE walls can be built to any height by designing it appropriately in a stepped' manner. Cost effectiveness can be achieved by providing adequately wide berms. A similar TCS submitted by the respondent vide letter nO.2674 (Annex.-C120), dated.10.09.2012 can be referred in this regard. So, it is imperative that RE wall can be designed for the heights encountered in the above stretch.

(xiii) The respondent also argued that the RE walls cannot be built in inundated areas particularly referring to the Kurnool - Yerraguntla approaches. While inundation is not a routine phenomenon in this zone, it is quite possible to design RE walls even in such circumstances.

(xiv) The requirement of ground improvement in each case i.e. as per CAIDPR and as per the final profile has been analysed and found that there is a requirement for ground improvement. It was also found that 'soil replacement' should be adequate in the current circumstances as

ground improvement. As such, the respondent submitted that stone columns would be required as ground improvement. But, the basis for such requirement has not been submitted. IE reviewed the bore logs submitted by the respondent and based on the soil strata found therein, assessed that ground improvement with soil replacement is adequate and with the above considerations calculated the cost implication due to increase in height of RE wall in the above stretches and presented below:

S. No.	Approaches	Cost of RE Wall (INR Cr.)		Additional Implication (INR Cr.)
		As per DPR	AS per final profile	
1	Approach- 1	10.22	12.98	2.76
2	Approach – 2	2.88	4.02	1.14
3	Approach - 3	12.55	17.58	5.03
Total (Rs. In Crore)		25.66	34.58	8.93

Note: This additional implication is inclusive of the COS Order issued by the Authority for an amount of ₹3.56 cr. explained in para 8 of above.

(xv) In IE's initial recommendation for the Change of Scope, IE had not considered the variation in the construction of RE Wall for increased height in the Approach-3. The primary reason for not considering the Approach - 3 is explained below:

(i) The profile in Approach - 3, which starts from Guntakal ROB, increased on account of increase in the height of Guntakal ROB. Consequent impact of increase in the height of ROB was considered to be within the scope of the respondent pursuant to

the provisions of Clause 4.12 of Annex.-I in Schedule-B, which states that:

- a. The proposed span arrangements of the ROB's are tentative and subject to change as per availability of railway boundaries / requirement of the railways.
- b. ROB shall be designed, constructed and maintained as per the requirements of Railway authorities. The construction plans shall be prepared in consultation with the concerned railway authority.

Earlier, IE opined that whatever changes that occur within the existing railway boundaries shall be at the risk and cost of the respondent and hence IE did not consider the 'impact of the increase in the height of ROB' on the 'raise in the profile of Approach-3'.

(xvi) However, after various conciliation proceedings at NHAI, HQ, IE agreed to review the decision and accordingly examined the issue in a critical manner. As explained earlier in para 2(b) and 3(b) of this letter, Railways have introduced Yerraguntla ROB for the future track proposed adjacent to the Guntakal ROB. Railways have decided a higher FRL for Yerraguntla ROB to avoid a level crossing nearby. Being very close to Yerraguntla ROB, the FRL of Guntakal ROB also had to be increased to match with Yerraguntla ROB. As the increase in the FRL of Guntakal ROB was solely due to introduction of a new ROB, which was not in CA and also not known to the respondent, IE opined that the consequent impact on the profile of Approach – 3 can be considered as Change of Scope. Accordingly, IE have assessed the cost and included in the above table.

(xvii) The above estimate was prepared with the following assumptions:

a. Rates are considered as per AP SOR 2012-13.

b. 3 types of cross sections were considered for assessing the RE wall quantity in the above estimate presented in Para 16 viz., 'with full height RE wall', 'with partial height RE wall' & 'with no RE wall'. The Schedule of application of TCS in case of DPR & in the revised scenario are as follows:

S. No.	Section		Type of TCS	
	From	To	DPR	Final Profile
1.	29.0375	290.740	Full height	Partial height
2.	290.740	290.840	Full height	Partial height
3.	291.040	291.300	Full height	Partial height
	291.300	291.580	Full height	Full height
	291.580	291.650	No RE Wall	Full height

c. The RE Wall drawings considered for the estimate are based respondent's submission vide letter no.2674, dated.10.09.2012 and cleared by IE.

d. Difference in height of RE Wall was determined based on the DPR profile collected from NHAI (i.e. 8 spans of Kundu Bridge & without Yerraguntla ROB) and final profile which was submitted by the respondent and cleared by. IE.

e. The start of approaches in both the cases i.e. DPR & final profile has been considered as Km 290.375 for convenience.

f. Ground improvement was considered by soil replacement based on the actual bore log details submitted by the respondent

g. Shyness of 0.25m was added in the TCS-08 for calculation of full height RE Wall quantities. Earthen Shoulder of 2.0 m and

MBCB were added in the cross section submitted by the Claimant / respondent for calculation of partial height RE Wall quantities.

(xviii) Code I Agreement Provisions:

As per Clause 4.1 of Schedule B of the Concession Agreement, Appendix BI provides details of typical cross sections to be followed. CS-08 provides typical cross section for Approach ramps to VUP/CUP /Interchanges/ROB.

As per clause 2.9 of the 4-Laning Manual March, 2008, which forms Schedule-D of the Concession Agreement, the Claimant / respondent would be permitted to adopt new technologies and materials as per the requirements of either the design or as a result of EIA and EMP or for providing cost effective solutions. These shall be subject to review by IE for their design and adoption.

Further, as per provisions of Clause 4.5.1 (vi) of Schedule D, claimant / respondent can adopt innovative/latest techniques in design, construction and use of new materials.

(xix) The Respondent submits that -

As per the Concession Agreement, the claimant / respondent is required to construct RE Walls. This issue was not raised during the pre bid meeting. The site situation did not change from what existed at the time of bidding. As per Clause 8 of the Concession Agreement, the claimant / respondent should have thoroughly examined and satisfied himself about the site conditions before submitting Bid.

As it is a flood prone zone, the claimant / respondent should design RE Wall for submersible condition and carry out any necessary ground improvement at his own cost. The claimant / respondent proposed to construct Viaduct instead of RE wall in the approaches of ROB for his own convenience of construction and long-term maintenance. However, the additional cost implication due to increase in height of RE wall between the original highway profile before introduction of new ROB (Km 290.783) and after introduction of ROB was assessed and recommended for issue of Change of Scope for an amount of ₹3.81 crores and the same was approved by the Authority.

(xx) Based on the recommendation of IE letter no. 1271 (Annex-C130), dated.14.12.2017, the Respondent have furnished the proposal with a financial implication of ₹8.93 Cr (which includes the earlier approval of CoS order-2 for an amount of ₹3.56 Crores) and recommended for approval of Competent Authority vide letter no.8398 (Annex-C131), dated.19.12.2017. Further, the RO, Vijayawada .vide letter nO.0031 (Annex-C132), dated.03.01.2018 has requested the following clarifications.

a. The IE has stated in their letter dated.14.12.2017 that "there is a requirement for ground improvement, and soil replacement should be adequate. Also the Concessionaire has submitted the stone columns as ground improvement and the basis for such requirement not been submitted." As per IE's statement, it appears that they have considered cost of ground improvement (by soil replacement) in the CoS proposal. But in the estimate

submitted there is no provision towards ground improvement. IE to clarify.

b. The Independent Engineer shall also clarify whether a separate payment is to be made towards the Ground Improvement or it is incidental to RE Wall works.

c. Even if the ground improvement is to be paid, the IE has recommended Ground Improvement from Km.290+960 to Km.290+990, whereas the Guntakal ROB spans from Km.290+930 to Km.291 +040, which I I might have been constructed with pile foundations, and hence no requirement of Ground Improvement in this stretch.

(xxi) The above clarifications have been obtained from the Independent Engineer vide their letter nO.1546 (Annex- C134), dated.02.02.2018 as furnished below and recommended to RO, Vijayawada vide Respondent Letter nO.8648 (Annex-C135), dated.12.02.2018.

IE has considered the ground improvement in each case i.e. as per CAIDPR and as per the final profile, and the same have been included in estimate under SI. No.11, for excavation and SI. NO.13 for embankment borrow. The quantity of soil replacement and cost of its replacement for the items are presented below.

(iii) Excavation (under S. No. 11):

Sl. No.	Approaches	Quantity (in cum)			Rate in Rs.	Amount in Rs.	Remarks
		As per DPR	As per final profile	Diff.			
1	Approach -1	0.00	910	910	79	71,890	
2.	Approach -2	0.00	3120	3120	79	2,46,480	

3.	Approach-3	0.00	17940	17940	79	14,17,260	
	Total:	0.00	21970	21970			Additional

(iv) Embankment below (under S. No. 13):

Sl. No.	Approaches	Quantity (in cum)			Rate in Rs.	Amount in Rs.	Remarks
		As per DPR	As per final profile	Diff.			
1	Approach -1	0.00	910	910	241	2,19,310	
2.	Approach -2	0.00	3120	3120	241	7,51,920	
3.	Approach-3	0.00	17940	17940	241	43,23,540	
	Total:	0.00	21970	21970		52,94,770	Additional

This additional implication for total ground improvement (S. NO.11 &13) is ₹70,30,400/-

The ground improvement is incidental to the work, if it is required as per the CA / DPR profile / drawings. In the present case, ground improvement is required due to revision of profile to accommodate the new ROB across Yerraguntla - Nandyal railway line at Km.290.783. Hence, the additional expenditure has to be paid to the Concessionaire. IE has not considered ground improvement from Km.290+960 to Km.290+990 and considered the ground improvement in the approaches of all the 4 structures as per annexure of our earlier submission from Km 290.735 to Km.290.740, Km.290.900 to Km.290.930 & Km.291.040 to Km.291.210.

(xxii) The RO, Vijayawada vide letter noA70 dated.26.02.2018 had recommended to issue COS order for an amount of ₹4.67 Cr. as detailed below.

RO had opined that, the Ground Improvement cannot be treated as CoS. This is because, the IE stated in their earlier correspondence, that,

the Concessionaire could have constructed the approaches with the RE Walls, instead of Viaduct. If there were no changes in the Kundu Bridge, and no additional RoB, at Yerraguntla, the Concessionaire could have adopted the profile as per DPR. Even if the Concessionaire adopted profile, as per DPR, the height of approach is varying from 11.00, to 12.00m from Ch: 290+375 to Ch: 291+040, with a weak soil strata beneath.

In such circumstances, the Concessionaire would have taken up the Ground Improvement, due to presence of weak soil strata in this stretch. Any structure constructed by the Concessionaire shall not only be durable but also safe. The Concessionaire cannot construct RE walls without taking up the ground improvement, due to presence of weak soil strata. The CI.4.3.2 (iii) of Manual for Four-Laning may be referred, which states that *"where the embankment is to be supported on a weak stratum, it shall be necessary to specially design the embankment and also adopt appropriate remedial/ground improvement measures"*.

In this respect, Art.8 may be referred which states that, *"The Concessionaire acknowledges that prior to the execution of this Agreement, the Concessionaire has, after a complete and careful examination, made an independent evaluation of the Tender notice, Scope of the Project, Specifications and Standards, Site, local conditions, physical qualities of ground, sub soil and geology, traffic volumes, and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by*

it in the course of performance of its obligations hereunder. Save as provided in Clause 7.2, the Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy and / or completeness of the information provided by it and the Concessionaire confirms that it shall have no claim whatsoever against the Authority in this regard".

Accordingly, RO, Vijayawada considers ground improvement as the incidental to the works, wherever the underlying soil strata are poor. Hence an amount of ₹4.67 Cr. may be treated as Change of Scope.

Respondent's Submissions:-

20. It is the submission of Mr. Dayan Krishnan, learned Senior Counsel appearing for the respondent that this petition is about four primary Change of Scope (in short 'COS') claims in four structures coming within a range of 1 KM. The four structures are (i) Kundu Bridge, (ii) Yerranguntla ROB, (iii) Guntakal ROB and (iv) the Viaduct connecting these three structures. In the original scope there were only three structures i.e. (i) Kundu Bridge, (ii) Guntakal ROB and (iii) the RE Wall connecting these two structures. However when the Yerraguntla ROB was introduced between (i) Kundu Bridge and Guntakal ROB, all these claims arose.

21. **Claim No. 1:** Change of scope arising out of Construction of Bridge across Kundu River at KM 290+335, inasmuch as there are two changes in the Kundu bridge, (i) increase in number of spans from 8 to 12 for increase in width of the river, and (ii) increase in height of FRL (final road level) of Abutment – 2 (A2) of the bridge from around 205.218 m to 213.635 due to introduction of the Yerraguntla ROB.

22. It is stated by Mr. Dayan Krishnan that the IE recommended the increase in span from 8 to 12 as COS without any COS for change in type of foundation, sub structure, superstructure for the additional spans. The respondent has no issue with it.

23. Mr. Dayan Krishnan has stated that as far as increase in FRL or height of the bridge is concerned, the IE initially approved a design with FRL of A2 at 205.218 m. The final approved FRL of A2 is 213.635m. The IE initially refused to accept the increase in FRL as COS by saying the FRL of A2 needed to be increased to 208.062 to accommodate the increase in HFL (high flood level) in Kundu bridge. Later the IE said that the height of AT2 FRL should have been 211.140m as per DPR and therefore agreed to accept a partial COS i.e. difference between 213.635m and 211.140m.

24. It is stated by Mr. Dayan Krishnan, the AT held that the argument that FRL of A2 need to be increased due HFL is not tenable. The AT also held that the DPR is just an indicative document and not part of CA. It is also stated that the AT held that any increase in FRL from the one initially approved by the IE (with A2 FRL of 205.218m) is a COS. The learned Arbitral Tribunal has only awarded (₹2,0650,238/-) the difference of the amount approved by the Petitioner (₹3,12,00,000/-) and the amount claimed by the Respondent (₹ 5,18,50,238/-).

25. **Claim No.2:** Change of Scope for construction of Yerranguntla ROB at KM 290+783 of NH – 18 on Nandyal Bypass, inasmuch as there was no dispute that the construction of the Rail lover bridge across the Nandyal – Yerranguntla railway line was a change of scope.

The difference in amount of ₹4.36 crores towards the Structural Steel Girder was sought to be claimed.

26. It is further submitted that the base rate as suggested by the petitioner i.e. an amount of ₹97,800/- per MT with overhead and profits was accepted by the learned Arbitral Tribunal. The Arbitral Tribunal applied the “*Ministry of Shipping, Road Transport and Highway (MORTH) Standard Book for Analysis of Rates*” for major bridges and adopted the figure of 25% towards overhead and 10% towards profits, which when added to the base rate suggested by the Petitioner i.e. ₹ 97800 which becomes a figure of ₹1,34,475 per MT.

27. Mr. Dayan Krishnan submits that the total steel weight of Structural Steel Girder was 922.8 MT thus taking the cost as ₹1,34,475, the differential to be claimed came to a figure of ₹1,79,71,530 as against the claim made by the Respondent ₹4.36 crore.

28. **Claim No.3:** Change of Scope for construction of Guntakul ROB at KM 290+986 of NH-18 on Nandyal Bypass, inasmuch as it has been conceded by the learned counsel for the petitioner that this claim is the same issue as Claim No. 2 as above and to that extent the same reasoning has been applied by the Ld. Arbitrator and has not sought to contest the other findings of the Ld. Arbitral Tribunal in relation to this claim.

29. **Claim No.4:** Change of Scope for arising out of construction of Viaduct from KM 290+360 to KM 291+570, inasmuch as, as per the original TCS, the approaches to structures should have been provided with RE Wall and service road. Height of approach as per old profile (Before introduction of new ROB) was varying from 2.16m to a maximum height of 13.2m. Since there was no ROW for service road

and a maximum ROW of 60m was available, as an alternative design, the Claimant / respondent proposed RE Wall with free embankment i.e. a maximum of 6m of RE Wall and 7m of free embankment.

30. It is stated that as per new profile (after introduction of new ROB) the approach height was varying from 7.91m to maximum height of 17.76m. Therefore, the Claimant / respondent proposed the construction of viaduct as a safer alternative. The design was also approved by the IE however as alternate design and not change of scope. Out of the total approaches of 1210m, 895 metres in the approved GAD coming above 13.2 m and balance 315 m coming below 13.2 m.

31. Mr. Dayan Krishnan also states that the learned Arbitral Tribunal also noted that if in this revised profile, the RE Embankment had been built, accounting for the costs that would have gone into the ground improvement etc., the RE Wall would have resulted in a change of scope of ₹57.21 crores as per the MACCAFERRI Report which is substantially more than the Viaduct proposal of ₹38.09 crores.

32. It is stated that the learned Arbitrator Tribunal has noted that the Petitioner was unable to prove that an RE wall can be built up to a height of 18 m in flood prone area in other highway projects and that while theoretically it might be possible the same would not be safe. This cost is based on the actual viaduct cost minus embankment with 6m RE Wall as per prevailing code and 7m free embankment above covering a maximum height of 13.2m embankment as per old profile i.e. without the introduction of Yerranguntla ROB.

33. It is also stated by Mr. Dayan Krishnan that the learned Arbitral Tribunal has concluded that the viaduct portion where the profile was

below 13.20 metres, the same would not be considered as a change of scope. It was only the balance reaches i.e. those beyond 13.2 metres for a total stretch of 895 m would be cost of the viaduct for final profile be taken. Accordingly the Viaduct proposal for the limited reach of 895 metres was awarded with a cost implication of 28.971 crores.

34. Having heard the learned counsel for the parties and considered the record, this court on each of the claims as awarded by the Tribunal is of the following conclusion:

Claim No.1:-

35. The brief facts are, a concession agreement provides at Appendix-BX of Schedule B, which is a span arrangement for major bridge Kundu river at Km.290.305 as 8x26m along with a footnote that the arrangement was tentative. There is a footnote in Appendix BX of Schedule B. This span arrangement was to be finalized in consultation with Irrigation Authorities and had there was any change in span arrangement it would not be considered as change of scope. The irrigation authorities considered the flood discharge as per latest 2009 floods and proposed 12x26m bridge length instead of 8x 26 m. as given in Schedule B. However the irrigation department proposed to re-grade the river bed to a depth 2.5 m below the existing the river bed level. Subsequent to this and due to introduction of new ROB at Km. 290+783 for Nandyal- Yerraguntla railway line and raising of the rail level by 2.137 meter than that of existing Nandyal – Guntukal railway line at Km. 290.986 by Railway Authorities, the height of Guntukal bridge was increased to maintain the longitudinal gradient. The respondent had requested for change of scope of additional works, but the Independent Engineer clarified that re-gradation of river bed and

increased in quantities due to increase in rail bed level by Railway Authorities cannot be considered as change of scope.

36. It is a fact that respondent had initially submitted a proposal before introduction of new Railway Over Bridge (ROB) for Nandyal-Yerraguntla railway line with deck slab level at A1 as +204.414 and at A2 as +205.417 for which detailed design and drawings were approved by the Independent Engineer on November 19, 2010 in accordance with Schedule-B as per the Specifications set forth in Schedule-D of Concession Agreement. It is a fact that there were two changes in the Guntakul Bridge (1) increase in number of spans from 8 to 12 because of increase in the width of the river and (2) increase in height of FRL (Final Rail level) of A1 204.414 meter to 208.285 meter and of A2 from 205.218 meter to 213.635 meter. It is also a fact that Independent Engineer recommended increase in span from 8 to 12 as change of scope but no change for the type of foundation, sub-structure, super structure for the additional span. The respondent has no issue in this regard.

37. It is the case of the petitioner herein that the deck levels 204.414m and 205.218m cannot be treated as reference deck levels for calculation of Change of Scope and the revised level of 208.262m only should be considered was negated by Arbitral Tribunal by holding that any increase in FRL shall considered from the day initially approved by the IE. In fact, I may note that Independent Engineer had held that the height of 82 FRL should have been 211.140 meters from DPR and accepted partial COS i.e. difference between 213.635m and 211.140m. This was rejected by the Arbitral Tribunal by holding that DPR is only an indicative document and not part of the concession agreement. The

reasoning given by the Tribunal in coming to the conclusion for awarding the claim in favour of the respondent herein are in Paras N to S, Pages 63 to 65 which are reproduced as under:

“n) The Arbitral Tribunal observes that the project work is to be carried out as per Schedule-B and in conformity with the Specifications and Standards set forth in Schedule-D of Concession Agreement.

o) As per Schedule-B, the length of bridge mentioned as 8 spans of 26 m. Initially, when there was no proposal of railway line for Nandyal – Yerraguntla. The Claimant submitted the design proposal for Kundu Bridge with 8 spans of 26 m duly arriving the design discharge as per the Specifications and Standards set forth in Schedule-D. The detailed designs and drawings were approved by the Independent Engineer.

p) Span arrangement means if the length of each spans increase or decrease from 26 m as specified in Schedule-B and Appendix BX, it attracts change of span arrangement. As per the Irrigation Authorities, to accommodate design discharge of 5500 Cumecs, the number of spans are increased from 8 to 12 i.e., length of bridge is increased but without change of span size of 26 m. Therefore, the Independent Engineer has accepted Change of Scope for increase in length from 8 spans of 26 m (208 m) to 12 spans of 26 m (312) for Kundu Bridge.

q) The contention of Independent Engineer that changes in type of foundations, substructure and superstructure due to increase of design discharge as per the requirement of Irrigation Authorities shall not be considered as Change of Scope is not correct. As per footnote of Appendix BX, span arrangement of 26 m for each span is not changed. But only number spans are increased from 8 to 12. For that the Independent Engineer has accepted for the additional length of bridge as Change of Scope. Further, there is not much change of

High Flood Level (HFL) due to revised design discharge of 5500 Cumecs as per the Irrigation Authorities when compared to HFL arrived with Specifications and Standards mentioned in Schedule-D as the Irrigation Authorities are proposing degradation of river bed by 2.5 m below existing railway line on upstream and also increasing the bed width of river from 195 m to 293 m. There were no comments from Independent Engineer on the calculations submitted by the Claimant for arriving HFL for the revised design discharge. Without substantiating the HFL calculations scientifically, and by considering 3m free board against the requirement of 1.5m as per IRC SP-13 2004, the Independent Engineer proposed top of deck slab of the bridge at A2 abutment as +208.062 for the initial proposal which is not tenable and hence not acceptable.

r) In initial and final proposals, HFL was not the criteria in finalising the deck level of the bridge. Only permissible gradient for the approach was the governing factor in deciding the deck level of bridge.

s) The cost of Kundu Bridge for the proposals with 8 spans of 26 In each submitted by the Claimant as per Schedule-B which was approved by the Independent Engineer shall be taken as base and any additional cost due to requirements of Irrigation Authorities for higher discharge and introducing new railway bridge for Nandyal Yerraguntla railway line or any changes from the Concession Agreement shall be treated as Change of Scope.”

38. From the above, it is clear that the reasoning given by the Arbitral Tribunal that the cost of Guntukal Bridge for the proposals with 8 spans of 26 meter each submitted by the respondent herein as per Schedule B which was approved by the Independent Engineer shall the taken as base and any additional cost due to requirements of

irrigation authorities for higher discharge and introducing a new railway bridge in Nandyal - Yerraguntla railway line or any changes from the Concession Agreement shall be treated as Change of Scope.

39. There is no dispute that increase in number of spans from 8 to 12 because of the increase in the width of the river and increase in the height of FRL with base level of A1 204.414 meter and of A2 at 205.218 meter, to 208.285 meter and to 213.635 meter being change of scope and the learned Arbitrator against the claim of ₹5,18,50,238/- had granted ₹2,06,50,238/- by adjusting the already approved amount of ₹3.12 Crores by the petitioner, I see no illegality in the conclusion arrived at by the learned Arbitrator and the award to this extent is liable to be upheld.

Claim No. 2:-

40. The facts with regard to this claim are that as per Schedule B of the Concession Agreement, Yerraguntla ROB at Km 290+783 of Nandyal - Yerraguntla line is not included in the scope of project. A new ROB was introduced at Km. 290+783 over the proposed Nandyal-Yerraguntla new railway line with a span configuration of 2x38.5m + 1x22m as per requirement of Railways. A joint inspection was conducted with the Railway Authorities in April, 2011 and it was found that the Project Highway crosses the existing Guntur - Guntakal Broad Gauge line and the proposed Nandyal - Yerraguntla Broad Gauge line at Km. 290+986 and Km. 290+783 respectively. It was noted that the span arrangement specified in the Concession Agreement was not adequate to cover both the railway lines. Moreover, there is an existing Nalla on A2 side for a width of 27.4m. As such the availability of right of way of railways for Nandyal -

Yerraguntla line at Km 290.786 is only 60m. However, the railway authorities insisting for placing the A2 beyond the Nalla. Accordingly, the Railway Authorities finalized the span arrangement to cover the existing and future tracks and approved the GAD, which resulted in an increase of 127m in the length of the structure over and above the provision of Concession Agreement. The dispute is the unit cost of Structural Steel Girder for the ROB considered by the respondent was ₹1,62,285/- per Metric Ton, whereas the petitioner considered ₹1,15,000/- per Metric Ton as per the Railway department information.

41. There is no dispute that the Arbitral Tribunal considered the unit cost of ROB with Structural Steel Girder unit cost of ₹1,15,000/- per Metric Ton as a change of scope. The only issue is whether the respondent is entitled to the Structural Steel Girder with unit cost at ₹1,62,286/- as claimed by the respondent herein with base price as ₹97,000/- including 25% overheads and 10% profit as against ₹97,000/- unit price with 18% towards overhead and profits arriving at a rate ₹1,15,404/- rounding of to ₹1,15,000/- per Metric Ton as per the petitioner herein. The case of the petitioner is primarily the rate as prescribed by the petitioner was by relying on the rate of Structural Steel in composite Girder as procured through various tender notices issued by South Central Railway for that purpose which observed that supply, fabrication, erection of Structural Steel Girders required for the super-structure in ROB is not covered in the IRU SSR 2010 for South Central Railway and accordingly worked out the figure of ₹97800/- per Metric Ton and Structural Steel Girder and at 18% towards overhead and profits.

42. The Tribunal analyzed the whole issue and was of the view that no standard data in IRU SSR of Railways or in MORTH / Highways Departments for the item of Structural Steel Girder. According to the Tribunal this item involves procuring of different sections of Structural Steel, fabrication to the required section in the yard, testing the joints as per the norms, transporting to the state of work, procuring other materials like rivets etc., assemble of different components, launching and aligning of girder at the appropriate place and other incidental items. The Tribunal was of the view that in the absence of Standard Data in the relevant departments, the practice in engineering departments is to conduct "observed data" for this item of work duly obtaining quotations for materials, labour, machinery and finally arrive at the total unit cost for the Structural Steel Girder which includes procurement, fabrication, transportation, launching etc. The Tribunal was of the view that petitioner should have insisted the respondent for carrying out the observed data at the site work for this item in the presence of representative of petitioner. In any case the Tribunal has taken into consideration the Ministry of Shipping, Road Transport and Highway (MORT) standard data book of analysis of the rates relating to construction of Major Bridges including State of Art Bridges and Minor Bridges, as per which the overheads and the profit shall be taken as 25% and 10% respectively. In other words, in terms of standard data book it is mentioned that the overheads at 25% shall be taken for arriving the cost first and then for that amount 10% profit shall be added and had accordingly granted an amount of ₹1,34,475/- per Metric Ton with base price as ₹97,800/- and in all for 922.8 Metric

Ton granted the difference of cost as ₹1,79,71,530/- instead of ₹4.36 Crores claimed.

43. Leaned counsel for the petitioner has submitted that (1) the change of scope COS estimate was signed by the respondent's representative as a token of acceptance before recommendation from the petitioner vide its letter dated December 30, 2013 sent to its competent authority for transfer; (2) the Arbitral Tribunal has failed to consider that the supplementary agreement was signed by the parties on December 11, 2015 and it was agreed by the respondent that it shall complete COS-I, COS-II & COS-III works without claiming none other than the amount determined by Independent Engineer following the principles given in 'in-principle' approval; (3) The authority reviewed the submission and assess the cost of providing a new ROB as ₹18.52 Crores and in fact the COS was issued for ₹18.52 Crores; (4) the Arbitral Tribunal has failed to see that the Independent Engineer has considered ₹1,15,000/- per Metric Tons towards supply, fabrication, erection etc. whereas the claimant / respondent has claimed an amount of ₹1,62,285/- per Metric Ton.

44. All the aforesaid submissions made by the learned counsel for the petitioner are unsustainable in view of the fact that there was an increase of 127 meter in the length of the structure over and above the Concession Agreement and the Structural Steel Girder for the ROB was considered as change of scope. The only issue is whether the base price of ₹97,800/- should include 18% as overheads and profit or 25% as overhead and 10% as profit. The Tribunal has relied upon the Standard Data Book of the Ministry of Roads, Transport and Highways in support of its conclusion. In fact, I agree with the contention of Mr.

Dayan Krishnan that the National High Authority being an Authority under the MORTH, the Tribunal was justified in relying upon the Standard Data Book issued by the MORTH wherein in similar circumstances for construction of Major Projects including State of Art Projects and Minor Projects, the overheads and profits are taken as 25% and 10% respectively. Mr. Krishnan is also justified on relying upon the Judgment of the Division Bench of this court in *FAO (OS) 402/2014 National Highways Authority of India v. Hindustan Construction Company* wherein, the Division Bench has accepted the average overheads for construction of roads, minor structures and major structures as 17.67 per cent by stating that there is rationality emerging in the majority awarded in that case, percentage having been picked up from Standard Data Book of MORTH. It found no infirmity in the award. On a similar reasoning, this court is of the view that Tribunal having picked up the percentage for overheads and profits from the Standard Data Book for analysis of rates of Ministry of Shipping, Road, Transport and Highways (MORTH), the conclusion of the Tribunal cannot be said to be unreasonable inasmuch as there is some rationality for the Tribunal to arrive at such a conclusion, this court is of the view that the conclusion arrived at by the Tribunal cannot be interfered with. So the conclusion of the Tribunal with regard to claim no.2 is liable to be upheld.

Claim No. 3:-

45. In so far as this claim is concerned, the facts are as per the Concession Agreement, the respondent was required to construct an ROB of 19.5 m width with 3x28 m span configuration and PSC superstructure over Nandyal -Guntakal railway line at Km 290+980 in

Nandyal Bypass. However, Railways sought and approved a GAD with 2x38.5 m + 1x35 m span configuration with a width of 20 m and Composite girder superstructure. Further, a new ROB was proposed over the Nandyal - Yerraguntla line, a new line planned adjacent to the existing line. The rail level of the new ROB was raised by 2.137 m more than the existing track level of the Nandyal - Guntakal line which necessitated an increase of the FRL of ROB proposed over the existing Nandyal - Guntakal railway line. As per the Railway Departments approved GDA there is a change in length of ROB, change of specification from PSC Girder to composite Girder and rates of FRL of ROB at Km. 290+986. In this regard, the respondent had submitted a cost implication of ₹24,56 Crores on account of change of Scope. The Tribunal was of the view that following are the changes in the Guntakal ROB due to introduction of new ROB (as per approved GAD by the Railways) compared to the profile without new ROB and the provisions of Schedule-B of Concession Agreement:

- a) Increase in length from 84m to 112m.
- b) Increase in height due to FRL finalized matching with the new ROB with increased rail level
- c) Change in type of superstructure (from PSC girder to composite' girder)
- d) Change' in substructure and foundation due to all these changes.

46. As stated above the respondent had submitted the change of scope of proposal for ₹ 24.56 Crore considering the above changes. It has taken the Structural Steel Girder rate of ₹1,62,285/- per Metric Ton as' per actual expenditure incurred duly enclosing the Purchase Orders

/ Work Orders. The Independent Engineer considered all these changes as COS and made recommendations vide its letter dated January 2, 2013 for ₹ 27.76 Crore as the combined cost for ROB at Km 290+783 and Km 290+986. In this proposal charges payable to Railways were excluded and the rate considered for structural steel was ₹1,15,000/- per Metric Ton. However, the Independent Engineer in his letter dated January 30, 2013, changed his stand and recommended only increase in length and change in type of superstructure as COS for the ROB at Km. 290+986 for ₹13.42Crore. In this proposal, the Independent Engineer has not considered the Change of Scope due to increase of height of ROB structure. Finally, the Independent Engineer again recommended increase in length, change in type .of superstructure and increase in height as COS for ₹13,98,78,294/-. The Arbitral Tribunal was of the view that the Change of Scope proposals for the ROB at Km 290+986 shall be in conformity with the Schedule-B of the Concession Agreement. Any change in execution shall be compensated to the respondent herein under Change of Scope. The Tribunal was of the view that the initial cost of the ROB structure shall 'be taken as per Schedule-B. Final cost of ROB structure shall be arrived with the above four changes and as per approved GAD by the Railway Department. The Independent Engineer finally accepted first three changes for considering Change of Scope, but he has considered only pro-rata height while arriving superstructure cost of ROB. He has not considered the change of cost due to substructure and the foundations for overall changes due to height. The Tribunal was of the view that the proposal of the Independent Engineer while arriving the Change of Scope cost is not as per Concession Agreement conditions.

The Tribunal was of the view that the total quantity of Structural Steel Girder involved for construction of the ROB is 1342.08 Metric Tons. Considering the recommended rate of ₹1,34,475/- per Metric Ton for the quantity of 1342.08 Metric ton, the Tribunal was of the view that the difference of Structural Steel Girder cost is ₹3,73,23,245/-. The Tribunal was of the view that the respondent had submitted its final proposal for Change of Scope for ₹24.56 Crores duly considering all changes as mentioned above. The Independent Engineer neither denied any quantities nor the unit rates for each item of work except the Structural Steel Girder cost for the estimates submitted by the respondent for the base Proposal, i.e., as per; Schedule-B of Concession Agreement without any additions / changes and final proposal as grounded as per the GAD approved by the Railway Department and accepted by the petitioner herein. The Independent Engineer while accepting all the four changes arrived the cost of Change of Scope for ₹13.99 Crore without considering the changes for foundations and substructure for the additional height and taking pro-rata for additional height. The Tribunal was of the view that this is not as per Concessional Agreement conditions and is not acceptable.

47. The Tribunal was of the view that the change of scope proposal submitted by the respondent for ₹24.56 Crore shall be considered minus the Structural Steel Girder cost difference of ₹27,810/- per Metric Ton for 1342.08 Metric Tons. The Tribunal observed that the Change of Scope shall be arrived taking the base proposal cost of ROB structure with Schedule-B proposal and compared with the total changes occurred in ROB at Km 290+986 due to introduction of new ROB at Yerraguntla, increase in rail level in Yerraguntla railway line,

change of specification from PSC girder to Composite Steel Girder and increase in length of bridge from 84 m to 112 m as per approved GAD of Railway Department. The Tribunal finally granted an amount of ₹20,82,76,755/- for Change of Scope for ROB at Km 290+986 as against claim of ₹24,56,28,148/-

48. I may state here that the learned counsel for the petitioner has not seriously contested the award to claim no.3 as the learned Arbitrator has applied the reasoning given in claim no.2 for this claim as well. There is no dispute that the four changes which have taken place as noted above are at variance with the Concession Agreement as per which the respondent was required to construct the ROB of 19.5 meter width with 3x88 span configuration and PSC super structure. If that be so, surely there is a change of scope of work for which the respondent has been rightly awarded by the Tribunal the amount as noted above. In fact, I find that the Arbitral Tribunal has in Para 4.6.11 has noted that the Independent Engineer neither denied any quantities nor the unit rates for each item of work except the Structural Steel Girder cost for the estimates submitted by the respondent for the base Proposal, i.e., as per; Schedule-B of Concession Agreement. If that be so, the Award of the amount as noted above cannot be contested more particularly in view of the finding of the Arbitral Tribunal as upheld by this court against claim no.2. Hence, the conclusion of the Arbitral Tribunal with regard to claim no.3 is upheld.

Claim No.4:-

49. In so far as the claim no. 4 is concerned, I find that the Arbitral Tribunal had arrived at conclusion in favour of the respondent herein on the following facts:

- (1) As per Schedule-B of Concession Agreement, the approaches are to be constructed between the Kundu Bridge and the Guntakal ROB and beyond.
- (2) Kundu Bridge is to be designed with 8 x 26m with design flood discharge as per Schedule-D.
- (3) The FRL of the Guntakal ROB is to be arrived based on the existing rail level of Guntakal rail line and as per norms of the Railway Authorities.
- (4) Due to introduction of Yerraguntla ROB and as per approved GAD by the Railway Authorities, the FRL of Guntakal ROB is raised and also Kundu Bridge deck slab raised to accommodate the approach gradient to match the FRL of Yerraguntla ROB.
- (5) The respondent communicated the GAD for Yerraguntla and Guntakal ROBs as approved by the Railway Authorities and also top of deck slab of Kundu Bridge to the respondent for submission of change of scope.
- (6) The respondent submitted change of scope proposal for ₹38.01 Crore for construction of Viaduct in place of RE wall combined with free embankment.
- (7) The respondent quoted the Highway manual SP:84-2009 wherein there is a restriction of height of RE wall to be constructed.
- (8) The Independent Engineer accepted the proposal of Viaduct treating as alternate design, but the Change of Scope cost he compared with RE wall for initial profile and final approved profile.

50. It is noticed that as per the approved GAD, the height of approaches is varying from 7.91 m to 17.76 m from ground level when compared to 2.16 m to 13.2 meter to the profile as per Schedule-B. The total length of approaches is 1210 m whereas as per Schedule-B profile, the total length of approaches is coming below 13.2 m. But as per approved GAD 895 m length is coming above 13.2 m and balance 315 m is coming below 13.2 m height.

51. The petitioner accepted the cost of approaches due to difference of two profiles due to introduction of Yerraguntla ROB and requirement of Irrigation Authorities for construction of Kundu Bridge as Change of Scope except the height of deck slab at A2 as +208.262 for initial profile instead of +205.417 as proposed by the respondent. The respondent relied on the DPR profile which according the Arbitral Tribunal is not binding as per the Concession Agreement.

52. For this claim the Arbitral Tribunal has posed for itself the following question:

What type of structure is to be constructed for approaches for revised profile as per approved GAD. The claimant / respondent proposed RE wall with free embankment as per Schedule-B1 up to height of 13m for initial profile i.e., per Schedule-B proposal without introduction of Yerraguntla ROB?

53. There is no objection from the petitioner on this proposal. For the revised profile, the claimant / respondent submitted Viaduct proposals which is the safest design as the RE wall shall not be constructed beyond 6 m height near water bodies and flood prone zone as per SP:84-2009 Manual and there is also restriction of land for further raising of free embankment.

54. The Independent Engineer accepted Viaduct proposal as an alternate design, but not accepting the change of proposal with this Viaduct proposal. The petitioner's case was that the change of scope for proposal shall be compared with RE wall as it can be constructed for any height subject to ground treatment and further added that the latest manual is not binding. There is a finding of the Arbitral Tribunal that the petitioner could not prove that the RE wall is to be constructed up to a height of 18m in flood prone area / near water bodies in some other Highway Projects. In fact, it was the case of the respondent herein that nowhere in Highway Projects RE wall is constructed with this height. Though theoretically RE wall can be constructed to any height on any foundations, the cost of construction of RE wall with ground improvement exceeds the cost of Viaduct and still there exists an element of risk on the safety of the structure. The maintenance period of the highway project is 30 years to be maintained by the respondent. Hence the respondent has gone for a safer and economic alternative due to increase in approaches to the structures. The Arbitral Tribunal has relied upon SP 84-2009 "Manual of Specifications and Standards for Four Laning of Highway Through Public Private Partnership" which specifically mentioned that "Reinforced earth retaining structures shall not be provided for height more than 6 meter unless otherwise specified and near water bodies", The objection of the petitioner was that the new edition of the manual has come in the year 2009, i.e., after concluding the Concession Agreement and as per old manual, there is no restriction for construction of RE wall for any height. Therefore, the new manual need not be followed and RE wall can be constructed to any height.

55. It is also noted that as per the advice of the petitioner, the respondent had submitted a proposal of cost of RE wall as per original profile and final profile with ground improvements duly obtaining design from M/s MACCAFERRI Environmental Solutions Pvt. Ltd. to the Independent Engineer. According to that, the cost of Change of Scope has come to ₹57.21 Crore. On the proposal of respondent herein, there are no comments or remarks on the design and the cost estimate for construction of RE wall.

56. I note the Arbitral Tribunal studied the subject in detail and observed that the codes / manuals are time to time modified based on the research conducted on the latest studies and experiences of the scientists / experts for better safety of the structure. This is general practice in all engineering departments to follow the latest codes / manuals for the respective subjects for designing the structures and shall be implemented.

57. The Tribunal was of the view that the stand of the petitioner herein that the recommendations of the latest manual need not be considered is not correct. For the reason as the structure has to stand safe in the interest of public and shall be maintained for a period of 30 years, all precautions are to be taken while designing the structure duly adopting latest techniques and codes / manuals. The Tribunal was also of the view that if the contention of the petitioner is considered for construction of RE wall for the approaches for revised profile, the cost of ground treatment / foundation treatment will not be economical and there will be every possibility getting distress or settlement of foundations due to availability of water bodies / flood zone in this reach. In fact that the petitioner also clarified that this reach comes in

the flood zone and also clarified that as per latest manual (SP:84-2009), the RE wall shall not be constructed, but defending that it is not binding.

58. I note that the said approaches was investigated with the advice of the Respondent and the proposal for construction of RE wall for initial profile and final profile were prepared by the aforesaid company who are reputed consultants in this field and submitted cost estimate for change of scope for ₹57.21 Crore. It is relevant to note, even if this proposal is considered, the change of scope is coming more than the construction of Viaduct' proposal. Hence the petitioner's conclusion for construction of RE wall is not standing on right footing. The contention so raised on behalf of the petitioner that the total cost of ground improvement / foundation treatment shall be borne by the claimant / respondent is not correct. For different profiles based on the height of approaches, the ground improvement cost will be varying. The difference in cost of ground improvement / foundation treatment for initial and final profiles for construction of RE wall shall be taken into the Change of Scope. Finally, the Tribunal in Para 5.8.12 has held as under:

5.8.12. With the observations noted above, the Arbitral Tribunal is of the view that the construction of RE wall near water bodies / flood zone area as per SP:84-2009 Manual is not advisable for the revised profile in this reach for the safety of the structure in public interest and hence construction of Viaduct for the approaches is the right proposal. The Arbitral Tribunal also observed that the construction of approaches in the reach where height

is less than 13.2 in shall not be considered for the Change of Scope as the same is to be constructed by the Claimant as per the Concession Agreement conditions. Otherwise, in this reach though the Claimant constructed Viaduct, the difference in cost will not be considered for Change of Scope. But the" cost effect due to initial and final profiles shall be compared in both the cases with RE wall with free embankment and the same may be included in the Change of Scope. The reach where the height of approaches is more than 13.2, in the initial profile shall be taken as RE wall with free embankment as per the Schedule-B] and final profile shall be taken as Viaduct. The difference in cost shall be considered as Change of Scope. For better understanding, the reaches from Km 290+360 to Km 290.401.3 (41.3 m) and from Km 291+296 to Km 291+570 (274 m) ie for a length of 315 m where the height of approaches is below 13.2 in, though the Claimant constructed Viaduct, the Change of Scope shall be considered for initial and final profiles with RE wall with free embankment only. For the balance reach from Km 290+401 to Km 291+296 (895 m], Change of Scope shall be considered for the difference in cost of Viaduct for final profile and RE wall with free embankment for initial profile; The abstract showing the revised Change of Scope is as follows:

<i>Abstract of Cost of Viaduct</i>			
<i>Net financial Implication</i>			
<i>Sl No.</i>	<i>Option</i>	<i>Cost in Rs. (Crore)</i>	<i>Remarks</i>
1A	Viaduct	29.78	Viaduct at stretch where approach height is more than 13.2m. (Pl. Refer Annexure-I-A)
1B	Embankment	12.32	Free embankment + RE wall up to a height of 13.2m. (Pl. Refer Annexure-I-B)
2	Deduction for Road Portion & RE Wall	-16.01	RE walls with sloped surcharge between two ROBs, between ROB and Major Bridge & from 291.040 to 291.570+VUP at 291+356. Same as of original COS submission vide Claimant's letter Dt.16.01.2013
Positive Cost Implication		26.09	
Add Escalation for Year 2012-2013 @ 4%		1.044	
Add Design charges		0.475	
Add VAT @ 5%		1.357	
Grand Total		28.971	

59. From the above, it is clear, there is proper justification for the Tribunal to come to the aforesaid conclusion. It is not a perverse finding of the Tribunal. There is no reason for this court to take a different view. More so, noting the position of law, this court, while exercising its power under Section 34 of the Act does not sit in appeal over the findings by re-assessing and re-appreciating the evidence. This court is finally of the view that the impugned award cannot be interfered with. The petition filed by the petitioner is dismissed.

I.A. 11958/2019 (for stay)

Dismissed as infructuous.

V. KAMESWAR RAO, J

SEPTEMBER 24, 2019/ak/aky

(Corrected and released on October 30, 2019)

