

Red flagging of execution of hidden (other items) not verifiable for quantity/ quality after execution.

1. **Background:** Central vigilance Commission vide their letter no. 012/CRD/008/181637 dated 20-07-2012 while circulating minutes of review meeting of CVOs of power sector on 27th June at New Delhi asked CVO/THDC, CVO/NHPC & CVO/SJVN to work together & come up with suggestions for implementing best practices in some areas of works contracts so that suitable guidelines could be framed with the help of CTE. One of the items of reference was “Documentation for hidden items”.

2. In execution stage of any agreement of works contract, execution of some items which can be termed as “Hidden” is involved. Committee used this term “Hidden works” for those items (or part of items) of works whose quality or quantity or both can not be verified after execution. For such items monitoring of quality or quantity on a real time basis is of utmost significance. Normally vigilance cases in execution of works contracts are related with execution of items which are verifiable for quantity or quality. But for hidden works there are hardly any or very few Vigilance cases perhaps because of non availability of any documentary evidences in such cases. Though probability of “risk” of having involvement of Vigilance angle in such cases is even more than that in execution of other usual items. Therefore, it may be highly probable that at present a large number of instances in execution of hidden items of works might be getting unnoticed. Such works for which quantity/quality of work done cannot be verified after execution at a later date are to be marked with “Red flags” from vigilance point of view.

3. Some of the common works being executed in hydro sector which can be termed as hidden are detailed below:
 - Grouting with cement/epoxy.
 - Initial levels for earth work.
 - Rock classification for earth work.
 - Leading/ dumping of released material for earth work.

- Quantity of crucial costly material in any mix such as Bitumen in road & to some extent quantity of cement used in concrete, admixtures etc used in concrete mix etc.
 - River dredging.
 - Dewatering.
 - Anti termite treatment.
4. During deliberations between Vigilance & executives it emerged that in some of the past cases it was noted that huge seepage through structures continued despite large quantities of grout material being consumed during execution. The quality & quantity of work done could not be ascertained at a later date except through scrutiny of documents. For execution of such items need of strict vigil and documentation to avoid suspicion in future about quality of execution was felt. Supply of such consumable materials was duly supported by authentic vouchers, maintenance of stock of supply and consumption on real time/daily basis. In case of stoppage of work in between the “nil” consumption was also recorded daily. By adopting such systems any attempt of not keeping documents updated and excess/shortage of stock attracted suspicion which could be caught by higher officials during inspections who visit site or by other functionaries. This extensive monitoring resulted in work of grouting being finished at about 30% of original estimated quantity.
5. During deliberations it also came up that for earth works documentation & record keeping of initial & final levels in tamper proof manner is essential. Initial levels need to be recorded & preserved at multiple locations to avoid any tampering in documents. Consumption of cement (& other costly materials like admixtures, silica etc) in concrete & other activities also need to be documented well to avoid pilferage of material (or tendency of contractor to save material) from site.
6. Cross verification of various documents would be helpful in this regard. This documentation system can be divided in following categories:
- **Procurement & consumption of material:** Contractors procure material from various sources which is used at site. Authentic vouchers of such procurement, followed by authentic documentation of such receipt & consumption of material on real time basis will help in monitoring actual consumption of material.

- **Manpower & machinery deployment including Log of events:** Details of deployment of manpower & machinery by contractor for each activity will be good source for cross verification. If this is insisted upon, it will help in post mortem of activity.
- **Computerization of site records by contractor:** Eventual solution for such issues is effective documentation supported by computerization of records by corporation as well as by contractor along with cross verification from other authentic records.
- **Videography:** At critical locations such as dumping site of material, excavation, river dredging etc indicating deployment of manpower, labour, material, location etc monitoring through CCTV etc would be extremely helpful. Such capturing of video details will keep a healthy check on executives & contractor at site. This can be effective measure for major projects & work sites where manipulation of material/ manpower/ machinery etc is suspected.

7. **Need for bringing 360 degree transparency:** At present Public Procurement systems being used by CPSUs & other central government departments are partly transparent as these are transparent only to the extent that they bring transparency in some acts of government agency (only up to bidding stage) but do not bring any transparency about acts of vendors. Need for promoting Transparency in all spheres from conception stage of work till final closure stage to bring transparency in totality. Concept of 360 degree transparency in public procurement emerged during discussions at various levels. “Special Arrangement” adopted as a “Risk & Cost” model by corporation mid way in the Koteshwar Hydro Electric project was discussed. Main reason behind the success of model was ensuring use of money being released for legitimate execution of project. This was achieved by implementing “Special arrangement” which was not provided for in the contract agreement. Taking a clue from this success storey it was thought off to build up suitable acceptable legal framework for bringing efficiency in execution of future works contracts. Following issues emerged during deliberations:

- It appears feasible to enforce conditions of “**one account for one work**” through bid documents especially for major contracts. Along with this conditions pertaining to periodic auditing of account & records of vendor by PSU, authentic documentation systems of vendor related with project are likely to lead to transparent functioning in all areas. This will bring transparency with efficiency in execution of projects.
- Maintenance of one account for one contract would be beneficial for progress of project as it would give idea of financial strength of contractor at various stages of project development and can be made to act as a tool to control contractor’s strategy to use cash flow received from contract for progress of that particular project only. This will also expose the full or partial validity of contractor’s claims which he usually makes in cases of disputes; bring reasonableness to rates of extra items & will lead to similar other issues related to financial implications.

Such measures will also help in setting up benchmarks for cost estimates of future works based on realistic data. Auditing of contractor's account system would help in bringing more transparency in public procurement.

- As a common man we all flag public procurement as the area prone for corruption similarly we are all aware of the extent of tax evasion prevalent in society starting from our day to day transactions while we purchase anything (including our newspaper, household goods etc).
- There are media reports indicating preliminary findings of huge amounts of tax evasions in CWG games. In order to curb such tax evasions ensuring authentic purchase with payments of all legitimate taxes/duties etc by contractor are must. If contract agreement provides for "one account for one work concept", it will lead to transparent functioning in all related areas. As government still remains the major player spending money such measures will automatically boost tax collections at all levels.
- Even systems are required to be built to ensure payments to labour, workers etc through their bank accounts to ensure proper compliance of minimum wages act as part of social responsibility.
- There is likelihood of increase in rates initially & resistance from vendors for such type of total transparency if such measures are adopted by modifying contract conditions. But an adequate clarity about this at the bidding stage in the form of elaborate provisions would enable the project owner to prevail over such resistance and as such these measures are likely to yield beneficial results for corporation in the long run. For practically implementing such a system suitable modifications in future tender conditions/ contract agreements will have to be made to have systems in place for auditing of contractors work by corporation along with provisions of all transactions for particular contract agreement through one account only.
- Provisions for auditing of accounts of work of contractor by corporation for major works will ensure availability of authentic vouchers for purchase of material & disclosure of the same on demand, payments of requisite taxes/duties etc at all levels. Making it part of agreement will make it easier for implementation for the Corporation officials and also obligatory for compliance for the contractor.
- Provisions for maintenance of separate accounts (something similar or on pattern of "Escrow account") for each contract agreement will help in bringing 360 degree transparency in public procurement which appears to be need of the hour. Such measure coupled with effective use of systems like "Vigeyegpms by CVC" & systems for auditing of contractor's records will be helpful in bringing total transparency in public procurement.

8. **Conclusions:** Suitable guidelines on subject regarding proper documentation systems including online computerized systems of stock maintenance at work sites by contractor & executives both would facilitate cross verification thus helping in prevention of tax evasion at various stages, serving as extra precaution for ensuring quality of works in general & quality/quantity of hidden works in particular. Such systems need to be made part of tender document, contract agreement so that vendor is aware of expected expenses & integrity standards in execution and quotes rates accordingly after accounting for such expenses.

9. **Recommendations:** Committee recommends commission to issue suitable guidelines in this regard for documentation purposes at work sites:

- A computerised system of stock maintenance at site by contractor needs to be made part of Contract Agreement. Making it part of agreement will make it obligatory for contractor.
- Mandatory daily log of events, manpower & machinery deployment and breakdown. Making it part of agreement will make it obligatory for contractor & streamline documentation at site by executives. A monthly summary sheet of such records needs to be sent at multiple locations including Corporate Office to avoid any tampering in documents as stated at clause 5.
- Videography of critical activities for major projects, hidden works through CCTV systems.
- Eventually, corporations need to be encouraged to go for online billing systems for works contracts also. This will ensure data generation time records, make data temper proof & will facilitate cross verification.
- Corporations must explore possibility of longer duration “maintenance period” for such works with security BG etc to ensure better quality output from contractor.
- Suitable modifications in contracts need to be made to have systems in place for auditing of contractors work by corporation along with provisions of all transactions for particular contract agreement through one account only. Provisions for auditing of accounts of work of contractor by corporation for major works will ensure availability of authentic vouchers for purchase of material & disclosure of the same on demand, payments of requisite taxes/duties etc at all levels. Making it part of agreement will make it obligatory for contractor. Such

measures coupled with provisions for maintenance of separate accounts on pattern of “Escrow account” for each contract agreement will help in bringing 360 degree transparency in public procurement which appears to be need of the hour.

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Risk & Cost Tendering

1. **Background:** Central vigilance Commission vide their letter no. 012/CRD/008/181637 dated 20-07-2012 while circulating minutes of review meeting of CVOs of power sector on 27th June at New Delhi asked CVO/THDC, CVO/NHPC & CVO/SJVN to work together & come up with suggestions for implementing best practices in some areas of works contracts so that suitable guidelines could be framed with the help of CTE. One of the items of reference was “Risk and Cost tendering”. In this regard meetings of three CVOs/representatives were held with concerned Director/Technical of PSU (along with experts on public procurement in these corporations). Based on the deliberations during meetings, further discussions on matter & practices being followed by these corporations’ recommendations in form of write up on matter have been prepared.

2. The committee looked into the following aspects:
 - Areas to be marked with red flags.
 - Efficacy of present systems & past experiences.
 - Suggestions for contract documents and internal instructions of corporation in form of guidelines.

3. The relevant laws relating to liability to pay damages for breach of contract are primarily covered in section 55, 73 and 74 of the Indian contract Act (ICA).

4. **Section 55:** Section 55 permits, in case of delay in performance by one party, the remaining unperformed contract to become void at the option of the suffering party. However this is permissible only when the time is an essence of the contract.

5. **Section 74:** Section 74 lays down that the party who breached the contract is liable to pay to the other party, reasonable compensation, not exceeding the sum named in the contract (liquidated damage or penalty) for such breach, whether or not actual damage or loss is proved to have been caused thereby. This section treats liquidated

damages/penalty amount mentioned in the contract to be the upper limit of compensation payable in case of breach. Thus it restricts compensation amount to a reasonable figure only notwithstanding the higher amount which may be mentioned in the contract. Therefore it is enjoined upon the government engineers and authorities deciding to impose liquidated damages on the contractor to put on record the details of loss or damages suffered due to delay attributable to the contractor along with the evidences of such loss/damage. Otherwise, the compensation may not be upheld reasonable and may not be sustained by the court. In order to make sure that the liquidated damages mentioned in the contract do not take the form of penalty, it is required that they are the reasonable sums. The purpose of putting a moderate upper limit on amount of liquidated damage also serves to fulfil this test of reasonableness so that the compensation is upheld as reasonable sum in law.

6. **Section 73:** Section 73 of the Indian Contract Act enables a party to claim damages suffered by it as a result of default by the other party even when no such provision exist in the agreement. These damages are general damages and not quantified as such in the contract (and are thus non-liquidated damages) but their sufferance has to be proved by the party claiming it. However, in order to claim such damages, one of the conditions that need to be fulfilled is that the loss arose naturally in the usual course of things from such breach or the party knew when they made the contract, to be likely to result from the breach of it, meaning thereby that the losses are not indirect or remote.
7. As per the present legal status corporations can pre define through tender conditions & contract agreement a reasonable amount to be deducted in cases of breach of contract by contractor. For major projects where delay in commissioning results in revenue loss, delay in commissioning is likely to cause generation losses. While urgency of commissioning of project is shown as reasons for post contract modifications but such delays on part of contractor are categorically quantified & assigned as Risk to contractor.
8. “Time is the essence of contract” is usually mentioned in all works contracts by PSUs. However, implications of delay are rarely explained in agreement. There is standard Liquidated damages clause in all works contracts uniformly used for different works in PSUs. Thus bid document is not able to convey categorically spirit behind the LD clause. There appears need of a different LD clause for revenue earning targeted

projects & separate liniment LD clause for routine works not expected to result in revenue gains. In short there appears need of defining “delay” in execution as Risk & assign this risk in monetary terms to either contractor or corporation.

9. **Existing Systems-** Provisions of “Risk & Cost” clause are usually governed by provisions of Section 73 & 74 of ICA. **Risk & Cost** clause in contract agreements is usually given with termination clause. The related clause is not uniformly followed for all works contracts by all PSUs & there may be minor variations from contract to contract, but basic philosophy remains the same. No further details about “Risk & Cost” are usually given in contact agreements. Further provisions about actual calculations of Risk & Cost amount are not clearly defined through agreement provisions. There appears need of clear instructions or methodology defined for follow up action on getting the works done through “risk & cost” tendering systems deliberated through agreement provisions in harmony with provisions of codes/manuals/ circulars etc. Present clauses in all the three corporations studied are traditional “Termination” clause followed by elaboration of systems of termination. None of the corporations actually defines the detailed methodology to work out “Risk & Cost” amount, systems expected to be followed for completing balance works either in form of guidelines to executives or as part of contractual provisions. Impression gathered was that because of lack of exposure to such action in real life cases of termination of contracts in routine manner there is lack of clarity in all three corporations amongst field executives about the way to proceed in such cases and significance of existing contract conditions in this regard. Thus the area remains sort of untouched & executives are hesitant in entering this area of termination or any such harsh action against contractor resulting in a mindset of somehow completing work with existing contractor.

10. **Conclusions:** Based on the study of systems prevalent in three corporations, provisions of other PSUs, government departments, discussions with executive & various other formal/informal discussions/deliberations on the matter following issues of import have emerged:

10.1 Though there have been delays & failures in execution due to various reasons in various projects/execution of various works contracts, but there have been only few cases of termination of contract followed by award of “Risk & Cost” tendering in any of the three corporations studied by committee. This indicates that either the

systems presently do not promote the pragmatic decision making under various prevalent material circumstances & proves the ineffectiveness of the systems being adopted at present.

10.2 There is ambiguity between different clauses of agreement & lack of clarity amongst executives about the manner in which deductions for “Risk & Cost” amount are to be made. The clauses should explicitly & unambiguously bring out the expected course of action after termination of contract. At present there is confusion amongst executives also about action to be initiated in the event of non performance of contractor. Practical difficulties are faced by executives in taking decision in the interest of work & corporation due to lack of clarity on subject.

10.3 With continuance of “Risk & Cost” clause there will be need for further illustration of methodology to be adopted for future course after termination in case any other means are required to be adopted without consent of terminated contractor other than “Open tendering”.

10.4 Expected system in all the three corporations with present systems in case of failure is termination of contract followed by open tendering for balance quantum of work. Some problems legal/ others that might be encountered (once termination followed by “Risk & cost” tendering system is followed) have not yet been understood by many PSUs as there have not been many cases of termination of major contracts followed by “Risk & Cost” tendering. Following inherent problematic features are associated with “Risk & Cost” tendering because of lack of detailing about the matter in tender documents & internal instructions of corporations:

- The exact quantum of work on which risk & cost would be applicable is not known. Whether it would be applicable on exact balance amount as per agreement or on whole quantum of work done to complete the work is not clearly defined beforehand.
- The amount of risk & cost can not be worked out till the balance work gets awarded. Further when large quantum’s and price variations with time are involved there is lack of clarity on further applicability. Thus the rates and time at which risk & cost would be applicable is also not clear.
- There is always apprehension of legal hindrance being created by the contractor.
- Reasonableness of rates to be awarded becomes an issue as contractor is always likely to contest reasonableness of rates at which work is awarded.

10.5 Action to complete balance works would be primarily governed by the circumstances prevailing at the material time of decision making. Amount of balance work left out would be the primary factor for deciding future course of action. Urgent action would be expected for return bearing projects compared to other works. Broad guidelines based on type of project, circumstances etc however should be issued by corporation along with suitable DOP provisions in this regard. Such provisions should be in consonance with the provisions of contract agreement.

10.6 Following systems for making the systems effective were discussed:

- **Solution-I-** Organisations where there have been large numbers of cases of traditional termination followed by “Risk & Cost” tendering are Railways & CPWD. Railways perhaps after noticing problems with Risk & Cost systems thought it prudent to eliminate the “Risk & cost” clause from agreements with following salient features:
 - (a) The successful bidder should give a Performance Guarantee in the form of an irrevocable bank guarantee amounting to 5% of the contract value.
 - (b) Wherever the contracts are rescinded, the security deposit should be forfeited and the Performance Guarantee shall be encashed and the balance work should be got done separately.
 - (c) The balance work shall be got done independently without risk and cost of the original contractor.
 - (d) The original contractor shall be debarred from participating in the tender for executing the balance work.

Such systems are categorical, simple & effective in eliminating further confusion regarding decision making. These clearly bring out contractor’s liability in case of failure restricted to a reasonable amount combining provisions made in section 73 & 74 of ICA. But fixing up of new agency remains as an issue for which again whole process is to be followed.

- **Solution-II-** CPWD is now following two separate clauses for Termination and Risk & Cost. One clause is for complete determination of contract in which case Performance guarantee along with recovered Security Deposits are forfeited. Second clause is for risk & Cost clause, which defines action to be taken if part of contract is terminated. Provisions are categorical, simple & effective in eliminating further confusion regarding decision making. These clearly bring out contractor’s liability in case of failure restricted to a reasonable amount combining provisions made in section 73 & 74 of ICA.

This gives freedom to executive by invoking suitable clause keeping in view the prevalent circumstances. But fixing up of new agency in case of major termination remains as an issue for which again whole process is to be followed. This needs to be coupled with suitable DOP provisions w.r.t award of balance work to be executed under Risk & Cost.

- **Solution-III-** With continuance of “Risk & Cost” clause there will be need for further illustration of methodology to be adopted for future course after termination in case any other means are required to be adopted without consent of terminated contractor other than “Open tendering”. **One of the solutions that emerge during discussions in various forums is to have inbuilt contract conditions to permit L-2 to execute balance work at some negotiated rates.** But such solutions also need careful examination before implementation with safeguards to avoid undue harassment of L-1 by executives in connivance with L-2. Provisions in this regard have to be categorical through contract conditions with suitable provisions in DOP, codes, manuals of corporation.

11. **Recommendations:** Committee is of the view that there is no one word solution for problem of “Risk & Cost” tendering. Action to complete balance works would be primarily governed by the circumstances prevailing at the material time of decision making. Broad guidelines however should be issued by corporation with suitable DOP provisions. Executives in real life situations are always under pressure for delivering results & do encounter the problems in timely & efficient completion of projects in events of dispute/ failure of contractor/ administration for which at present there are no effective systems in place. Present systems do not promote speedy disposal in case of poor performance w.r.t progress of work. While termination & subsequent Risk & Cost tendering are time consuming, any action beyond provisions of contract agreement is liable to be viewed with suspicion. Therefore, committee recommends for circulation of write up to various PSUs with recommendations from commission to examine their provisions in contract agreement, codes, manuals etc pertaining to “Risk & Cost” tendering & make them more pragmatic to facilitate quick decision making.

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Vitiation in inter-se position of bidders in works contracts due to Variations.

1. **Background:** Central vigilance Commission vide their letter no. 012/CRD/008/181637 dated 20-07-2012 while circulating minutes of review meeting of CVOs of power sector on 27th June at New Delhi asked CVO/THDC, CVO/NHPC & CVO/SJVN to work together & come up with suggestions for implementing best practices in some areas of works contracts so that suitable guidelines could be framed with the help of CTE. One of the items of reference was “**Vitiation in inter-se position of bidders of works contracts**”. Vitiation is said to have happened when “inter se” position of bidders changes during execution of work due to variation in quantities. Vitiation is a common problem encountered in works contracts which needs to be given due cognizance during the execution stage. In this regard meetings of three CVOs/representatives were held with concerned Director/Technical of PSU (along with experts on public procurement in these corporations). Based on the deliberations during meetings, further discussions on matter & practices being followed by these corporations’ recommendations in form of write up on matter have been prepared.

2. The committee looked into the following aspects:
 - Areas to be marked with red flags.
 - Action to be taken if vitiation is actually noted during the course of contract management.
 - How to control vitiation by taking pro active & predictive actions at pre bid, bid evaluation & execution stages.
 - Suggestions for contract documents and internal instructions of corporation in form of guidelines.

3. **Variations:** Variation in quantities can not be avoided during the course of execution in works contracts. Vitiation occurs because of variations in quantities of items of work during execution. Variation may or may not result in Vitiation, but if variations are restricted vitiation can be avoided. However, during execution controlling variation in quantities is practically impossible. The variation in quantities may be because of genuine reasons or may be arising just to pass benefit to contractor. In this regard financial impact of variation of item is matter of significance. **Thus variation of any item having significant financial impact needs to be marked with red flag.**

4. Vitiation of any contract is liable to be viewed with suspicion by any investigating agency. At a later stage if vitiation is detected it would be difficult to establish whether it occurred

because of genuine reasons or was it pre planned with connivance between executives & contractor. Even without genuine reasons the possibility of enhancing profitable items to contractor can not be ruled out. It is therefore, important to check vitiation through intermittent bills, realize the problem and address it for future contracts. **Thus sanction of variations needs to be marked with red flag.**

5. Periodic checks at some stages should also be done for academic purposes. Such checks with availability of computers are very easy. This will give project management team a clear picture & based on the situation a considered view can be taken by the authorities concerned. There may be situations where Vitiations might have occurred but there may not be any malafied, at the same time there may be situations where variation might have resulted due to malafieds without actually causing Vitiations. Vitiations if it is arising out of genuine reasons needs to be accepted. **Thus vitiations in itself should not be treated as an irregularity but should be marked with red flag.**

6. **Risk identification & mitigation; Speculative bidding:** Hydro as well as other sectors have past history of time overruns & non completion of projects in time. Contractors are also well aware of the fact that most of the projects are likely to run into delays due to various reasons eventually resulting in contractual disputes, thus tendency of quoting higher rates for items to be executed in initial phase & lower rates for items to be executed in later phase cannot be ruled out. Tendency of contractor to quote high & low rates for different items arises from tendency of “Speculative Bidding”. It was brought out during discussions that the speculation during bidding needs to be minimised in order to ensure that the contractor quotes the realistic rates. **Thus identification & mitigation of Risk through bid documents at pre bid stage needs to be marked with red flag.**

7. **Existing Systems-** Presently there is no system of checking vitiation as a routine in any of the three corporations (THDCIL, NHPC & SJVN) which were studied. There is no sensitization amongst executives regarding Vitiations thus it is not treated as irregular as per existing practice. Status in three corporations studied by committee are detailed below:
 - **THDCIL:** There are no specific and standard systems built in the contract documents regarding tackling problem of Vitiations. In some contracts the provision has been made for payments of items at reduced rates if overall variation exceeds the certain limit. Philosophy behind such a clause is that for enhanced quantum execution overhead charges would be reduced. This type of system was discussed & was not found effective for vitiation control as the rates are reduced across the board for all the items. Management has been requested in THDCIL to examine the issue of Vitiations in contracts. A committee of officers has been nominated which will give

recommendations on the matter. Committee was also present while discussions were held in THDCIL.

- **NHPC:** At present NHPC has a built in condition which stipulates for working out the fresh rates of items in case the variation in any of the **significant items** is more than 25% provided financial implication for such variation constitutes more than 0.25% of contract price. Significant items have been indicated as those having contribution as a result of variation beyond certain defined percentage of BOQ cost. This system is also adopted in World Bank projects. This restricts execution of large variations at quoted rates. This may or may not be able to control vitiation but has been taken as a safeguard.
- **SJVN:** SJVN also has built in conditions similar to NHPC stipulating working out fresh rates for significant items having variation beyond 25%. It checks large variations and acts as a tool to safeguard vitiation but with this, effective control over vitiation may or may not be possible.

8. **How to control Vitiations in future contracts-**Several possible systems were discussed with technical heads & experts of public procurement in three corporations by the committee. Some of them are detailed below:

- The easiest way of controlling vitiation in future contracts is by asking the bidders to quote rates as single % above or below the estimated rates of Bill Of Quantities published through tender documents. This will eliminate possibility of vitiation completely. However, the possibility of wrong estimation of rates can not be ruled out. Estimation of rates of some items as exorbitantly low (which may not be executed) & estimate rates of some items as exorbitantly high (which may get enhanced during execution) would defeat the whole purpose of checking Vitiations. Corporation would be totally dependent on estimation process & there may be situation of potential loss to corporation even when there would be no vitiation on record. There would be need for strict discipline of variation to be maintained during execution. This has another disadvantage as contractor would quote based on executives' estimation which may be far away from realistic for particular vendor. Just to grab the work contractor might quote under compulsion but would create problems during execution. Such a method may be suitable for buildings, roads & other such works **but efficacy was seriously questioned by officers belonging to civil Engineering background for major hydro projects specifically for items where rates are specific to methodology proposed to be deployed by contractor.** There appears to be a need to give item wise quantities in such cases with restriction

on variation of items beyond certain limits for execution. After which a re look may be taken on the issue.

- One of the possible ways of controlling Vitiation was suggested as having an inbuilt clause in contract for reduction in rates of individual items as a result of variation beyond certain limit (say 25%) for that particular item. This option was rejected as it would promote speculative bidding & also appears unfair to bidder to give him fixed rates or reduced rates of work at a later stage. Adoption of such system would promote speculative bidding and lacks fairness. Such system might have suitability for small value routine works, but is not suitable for major projects.
- Existing system of NHPC/SJVN (& perhaps many more corporations as similar systems are part of World Bank conditions also) which have a built in condition in tender documents for working out the fresh rates of items in case the variation in any of the **significant items** is more than 25% was examined. Significant item may be defined in terms of impact of variation of item as %age of contract value or through other suitable means. It was noted that working out fresh rates at later date in itself would lead to apprehensions & might result in more & more Vigilance complaints. Such system appears fair on face value & would be successful for execution but in actual implementation lots of apprehensions are likely to emerge. Systems for working out fresh rates really have to be effective. All such items are to be treated as extra items and rates are worked out based on estimation alone. Such system may be effective if variations are limited & well controlled, but in cases of large variations apprehensions are bound to arise.
- Mixed system of calling rates as % above for some items & to be quoted separately for some items was also suggested during discussions. There appeared no specific problem with the system. Adoption of such a system has to be based on experiences of corporation wanting to adopt such systems. No general guidelines can be framed for adopting such systems.
- System of giving specific rates for some identified items was also discussed. Such systems have to be specifically based on experience of Particular Corporation. General systems cannot be built around such concepts.
- Traditional system of asking separate rates for individual items was also discussed. It was suggested that checking of vitiation through intermittent bills can be resorted to.

A suitable clauses in GCC/ elsewhere in agreement may be provided that in case of change in “inter se” position of technically qualified suitable bidders due to variations (i.e. vitiation) payments as per rates of revised lowest bidder would be provided. This issue was also discussed & was not acceptable because of the fact that it would be unfair to ask contractor to work as some assumed rates not quoted by him & would be counter productive.

9. **Traditional systems with safeguards:** It emerged during discussions that with sensitization **regarding** the issue of vitiation amongst executives and with due care & diligence at all the three stages viz pre tendering, tender finalization & post award stages there is possibility of arriving at pragmatic & acceptable fair solutions for problem of Vitiating even by following traditional system of asking separate rates for individual items. Some of the safeguards with traditional systems if taken at various stages may be effective in controlling vitiation at various stages are detailed below, which may be suitably incorporated by corporations in their internal systems:

- **Safeguards at pre bid stage:** Estimation of rates needs to be worked out with due diligence. Risk matrix to be framed and made part of tender document. Root cause of Vitiating or entire related problems was identified as “Speculative Bidding”. Speculation during bidding needs to be minimised in order to ensure that the contractor quotes the realistic rates. For this identification & mitigation of Risk was main factor and needs to be defined categorically through bid documents. (THDCIL has its Risk management manual). Risks of bidder & owner are to be clearly defined. Each corporation should have systems in place in this regard. **However, key lies in assigning only those risks which can be ensured against to the bidder to avoid speculative bidding. Assigning any risk which can not be reasonably estimated or cannot be ensured against would lead to speculative bidding.**
- **Safeguards during bid evaluation & award stage:** If systems are in place & committee members are sensitized and trained in this regard attempt of speculative bidding can be curbed to some extent at bid evaluation stage by suitably incorporating provisions at the stage of award. Flagging of items whose rates quoted by bidder are exorbitantly deviating from average/estimated rates and those likely to cause vitiation during execution needs to be done. At the stage of bid evaluation an upper capping limit of execution on items for which bidder has quoted exorbitantly high rates may be kept after due deliberations on probable reasons for the same. To ensure safeguard for execution of items for which contractor quotes exorbitantly low rates some executives suggested that there may be demand in form of extra BG for such cases. Items likely to cause vitiation during execution may be identified/ flagged at the stage of Bid evaluation through critical analysis for which some inbuilt systems of

safeguards may be in place for critical items in order to ensure fairness during execution. Safeguards can be thought off by corporation based on their own experiences & systems.

- **Safeguards during post award stage:** During execution vitiation is checked while examining **variations** critically at intermittent and final stages. Issues causing vitiation or impact on overall cost beyond certain limits because of variations are examined administratively by having suitable provisions in DOP. Whenever variation of any item exceeds beyond 25% of stipulated quantity in agreement or impact of variation of any item goes beyond some stipulated value (say 1%) of contract value this needs to be red flagged & corporation should have its internal system of examining this on record. Solution may vary from case to case, but need is to bring this on record & deliberate on causes, based on which conscious decision can be taken based on prevailing circumstances. With sensitization for Vitiation in corporation, systems of periodic & final checks before passing bills may be built in system. Powers may be delegated for acceptance of such occurrences so that issue comes on record transparently and any attempt of variations with malafieds is appropriately curtailed/curbed at administrative level.

10. Solutions for ongoing projects/ contracts-

- In on going works where vitiation is noted when it has already occurred the final view can only be taken on case to case basis depending upon conditions of contract, circumstances leading to vitiation and other relevant factors related with project. However, if vitiation has been noted and there is no check in contract for the same, making supplementary provisions in this regard in contract may be thought of, for which consent of contractor would be required. In case contractor disagrees, view will have to be taken whether to continue with same contractor or not. Thus this does not appear to be practically viable solution unless such provisions exist in correct otherwise.
- For decision making under such cases each company needs to have its internal instructions and DOP provisions for decision making in such cases. Cases would require to be reviewed at higher levels with categorical views on whether the vitiation was avoidable or unavoidable.

11. **Conclusions:** Based on deliberations on the issue of Vitiation management in works contracts following three systems were shortlisted for consideration. Concepts & underlying principles have been deliberated and corporations will have to develop their provisions in bid documents & internal systems as per their requirements.

11.1 **System-1:** The easiest way of controlling vitiation in future contracts is by asking the bidders to quote rates as single % above or below the estimated rates of Bill Of Quantities published through tender documents. This will eliminate possibility of vitiation completely.

- **Applicability:** This type of system appears suitable for mainly routine small works, building works etc where estimated rates of the item can be worked out to reasonable extent & these are not governed by the technology being deployed by contractor. Corporation those who think that estimated rates can be worked to closest possible & have confidence on their rate analysis systems may adopt such systems even for major hydro projects.
- **Safeguards required:** This system will not result in any vitiation but if there is problem in estimation stage and estimated rates are either exorbitantly low or exorbitantly high compared to reality, the system is liable for misuse. Contractor will have tendency to execute only profitable item to him. Thus an upper limit on item wise variation would be important in such cases as a safeguard against wrong estimation of rates.

11.2 **System-2:** Based on present system of NHPC & World Bank conditions there can be a built in condition which stipulates for working out the fresh rates of items in case the variation in any of the **significant items** is more than 25%. Beyond this fresh rates are determined for execution of individual item based on guidelines to be stipulated in contract agreement/ through internal instructions of corporation. Significant items may be indicated as those having contribution as a result of variation beyond certain defined percentage of BOQ cost.

- **Applicability:** This type of system is presently being applied for major projects at present and is increasingly becoming popular. This restricts execution of large variations at quoted rates. This may or may not be able to control vitiation but has been taken as a safeguard. Some executives have a strong logic in favour of adopting such a system especially in hydro projects as they are large value, long duration

projects & management is not in a position to rescind contract at the final stages of completion. To avoid disputes at such stages due to large variations in quantities it would be in interest of project completion to have system of working out fresh rates beyond variation of 25% in quantity of particular item.

- **Safeguards required:** This system might still result in vitiation but fixes up upper limit of variations at given rates. However, working out of fresh rates after variations beyond 25% execution **is liable for misuse**. Present systems adopted by some corporations for working out fresh rates for such items are based on analysed market rates. CPWD also has similar systems for working out fresh rates based on market rates for variation of items beyond 25%. This is a grey area of decision making where manipulations are possible. In such situations determination of rates needs to be made more scientific & should be duly supported by expenditure auditing of expenses on item. Thus systems of checks for awarding fresh rates will have to be strengthened. One of the misuses possible while adopting this system especially in big projects is to get the works done through contractor without competition on apparently reasonable looking rates & thus extending favour to contractor which are difficult to catch. Such areas should be focal point of Vigilance checks. Upper limits on such overall variations of individual items & strict DOP provisions would be required with accountability for reasonability of rates.

11.3 **System-3:** Traditional system of asking BOQ rates for each item. There can be a built in system of examining rates quoted by bidders w.r.t estimated rates of corporation & average of rates quoted by bidders for each item. The items for which bidder has quoted exorbitantly high rates, restriction with upper limits of variation may be kept for execution of such items & items for which bidder has quoted exorbitantly low rates, extra BG will be demanded to ensure execution of such items. This system will give executives more freedom but will bring accountability on officials involved in evaluation of bids. Some internal guidelines with sensitization, training will have to be enforced by corporation adopting this system.

- **Applicability:** This type of system may be applied for major projects. This restricts execution of large variations at quoted rates. This may or may not be able to control vitiation but has been taken as a safeguard.
- **Safeguards required:** This system might still result in vitiation but appears best suited to prevent speculative bidding. Each corporation for adopting such a system will have to develop its built in systems through guidelines, circulars, codes, manuals, DOP provisions as detailed in Para 9 above.

12. **Recommendations:** Committee is of the view that there is no one word solution for problem of Vitiating. There appears definite need for checking vitiating, sensitization (including enhancing professional know how in area of works contract) of executives as well as Vigilance functionaries, transparently handling the issues on record by corporations rather than escaping (by not working it out) from it and then handling it transparently. Corporations may adopt any system but the officials involved in public procurement at any of the three stages (pre bidding stage, bid evaluation/award stage & post award stage) need to be trained/sensitized corresponding to the systems adopted. Corporation may adopt any system for entering into works contract but corresponding guidelines should be available in their rule books for proper accountability.

Any attempt to have stringent guidelines with focus of curbing only Vitiating is likely to be proved counter productive in long run and may harm professionalism in systems of public procurement. Thus Committee does not intend to suggest any system or guideline to be adopted as part of bid document. Committee also does not also intend to suggest any system to any corporation for adoption. It should be entirely left to the prudence of corporations to adopt any systems suitable as per their requirements. But due recognition is given to concept of “Vitiating” in managing contracts by corporations & corporations should have systems in place corresponding to their clauses of bid documents as a safeguard using professional knowhow about the subject. Executive & vigilance functionaries need to be equally trained in such aspects of contract management for critical identification & appreciation of irregularities emerging during course of investigations in right perspective.

Committee recommends for circulation of study as a write up on subject for guidance rather than circulating any specific guidelines. This is to be done to serve purpose of sensitization of executives for building up better systems (including tender documents, DOP provisions & internal circulars etc.) as well as vigilance functionaries to have a watch on execution aspects corresponding to systems being adopted by corporations. This may be published as article on subject matter in CVC website, newsletter also with suitable modifications by commission if deemed fit. Commission may take appropriate view on the matter.

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