**PART NO 3:**

**COMMON MISTAKES AND OMISSIONS IN BILLS CIVIL FML CONTRACTS**

Most of the mistakes in FML bills are due to -

1. Mis-interpretation of contract provisions;
2. Incorrect evaluation of variations to contract; and
3. Failure to read full scope of work in the items in BOQ. Examples are given below.

1.1 Certain material is normally covered under basic rates which transfers the Cost escalation risk to the Owner. However this is limited to the quantity payable under the BOQ item and not for the overall quantity brought or consumed at site by the contractor.

1.2 In measurement of steel only authorized laps are measured for payment. Other laps are not measured. Also quantity of steel used for chairs, pins, spacers etc is not measurable.

1.3 Lintels and bands in the brickwork/block work are not measured separately unless otherwise mentioned in the contract.

1.4 Normally concrete grades in columns and walls would be different than those for beams and slabs and if the difference is equal to or less than two grades then beam column junctions can be cast in the grade specified for beams even if it is lower. As such the quantity of concrete in beam column junctions shall be measured in the grade specified for beams which shall normally be lower.

1.5 Steel is always measured in lengths and converted into weight by standard conversion ratios. However if the spacing of the bars has been reduced or number of bars increased due to -ve rolling margin then the conversion for such steel shall be on actual weight.

1.6 Certain construction details would need some implicit costs which need to be borne by the contractor. For example, if concrete grades in beams and slabs are different, higher grade concrete in beams may overflow in the slab. In such a case the cost of excess consumption of higher grade concrete is deemed to have been taken in account in contract price and cannot be accepted as claim for extra concrete.

1.7 Normally plum concrete or PCC unit rates are inclusive of the cost of shuttering. It is to be ensured that BOQ item description is correctly read and the work that was already a part of the item is not paid under a separate item.

1.8 It is extremely important to see that quantities of items for which extraordinary or freak rates are quoted by contractor are not allowed to increase.

1.9 Cutting length of rings or stirrups is actually measured before it is bent into a ring or stirrup as the bending process will increase the length by 2*d for each bend.

1.10 At the expansion joint shuttering for concrete face of beams or columns on one side is not required.

1.11 In case of inset door/ window openings in the concrete, shuttering area over these insets shall not be payable.

1.12 Grouting of bolt holes or removal of tie rods etc in mivan shuttering is automatically included in the contractor's scope since the drawings do show these as part of construction.

1.13 When plum concrete is specified with proportion of say 40:60 plum to concrete 40% volume is the solid volume of plum and not the loose volume of rubble. Since loose volume of rubble could be upto 200% of the solid volume ( dlbd = 1450 Kgs/cum against solid density of 2800 kgs/cum ) rate analysis of plum concrete needs to take into account 0.6 cum of concrete and 0.8 cum of loose rubble. Actual consumption of concrete can exceed considerably than the theoretical values if the conversion of dlbd to solid density is not considered.

1.14 Many times back propping of lower slabs is required as the slab casting cycle does not afford development of requisite strength in lower slab to support weight of new slab. Some times higher grade concrete is used to attain early strength to avoid back propping. In such a case difference in cost of actual grade used and the specified grade of concrete shall have to be borne by the contractor.

1.15 When advance is paid for steel brought by contractor, the quantity has to be verified independently. When part of this advance is carried over to the next bill, quantity for material advance will not be total qty brought at site minus quantity billed as work done but will have to also exclude wastages. Since wastage quantities cannot be accurately measured, it is essential to count the steel at site which is to be considered for secured advance.

1.16 Idling costs: At times there could be claims for idle stay by the contractors. While evaluating idle stay claims it is necessary to bear following facts in mind in respect of various idle charges:

a) Only full time staff exclusively appointed for the project is considered and that such staff is not in excess of the number shown in contractor's org chart. It is necessary to see that such staff was permanently employed and not the temporary hires.

b) The equipment was being actually used for the work and would have been in use for the duration claimed.

c) Basis of calculation of idle cost of equipment should be its book value and not market value.

d) Operation and maintenance costs of equipment cannot be considered as idle costs.

e) If the equipment was put under overhaul, modifications or repairs/ maintenance during idle stay, then the period for which it was put under maintenance and repairs shall be excluded from idle stay period.

f) Idling of labour cannot be paid unless they have been specifically asked to be retained at site without any work, by the client. However their demobilization and remobilization costs will have to be considered.

Generally only fixed costs shall be considered in idle stay costing. Variable costs will be excluded.

1.17 Concrete of different grades can be designed with different mix Designs. Contract may however have requirement of specific mix design from considerations of serviceability, temperature control, self compaction, etc. In the event of the client waiving off this requirement and allowing mix design other than specified in contract, difference in cost of the two has to be adjusted in contract price. Needless to say that if contractor uses costlier mix for his own reasons, he would not be entitled for reimbursement of cost difference.

1.18 At times certain work requires staging which is paid separately for extra height. If the unit for the same is cum or cft, do not forget to deduct volume of beams which protrude below slab soffit level.

1.19 Wherever the rates of extra works can be obtained or derived from the rates in contract BOQ, rates higher than those derived or obtained from contract BOQ will not be admissible.

1.20 Whenever BOQ mentions items which have natural overlap, the item for the higher rate shall have quantities excluding the overlap quantity. eg.

a) excavation in trenches upto depth of 3 mtrs.; and

b) excavation in trenches upto depth of4 mtrs. In this case quantity under item ‘b’ shall be only the quantity excavated between the depths of 3 and 4 metres. Similar logic shall apply for works to be carried out at heights.