



Applying technical programme governance drives project consistency

The history of DCMA-EVM 14 point analysis?

The US Defence Contract Management Agency has developed a comprehensive approach to Earned Value Management known as DCMA EVMs, but to achieve effective EVM, the quality of the supporting information is critical. EVM can be prone to manipulation and if the underpinning data is inherently weak the whole process is undermined

The DCMA developed a suite of metrics to improve the overall quality of the clients', consultants' and delivery contractors' underpinning schedules in order to improve the EVM accuracy. The DCMA 14 point analysis is used to check the technical quality of either an internal or external schedule and is widely used around the world in all industry sectors.

Where does DCMA 14 point analysis fit into the overall programme cycle?

DCMA 14 point analysis is used in the delivery phase of the overall programme lifecycle. The methodology begins at the start of the delivery phase and can be applied at the start, and every update cycle of the projects within the programme, to ensure the schedule quality is maintained throughout the delivery lifecycle.

Why is the individual project schedule's integrity important?

Ensuring the integrity of the project schedules within a programme is one of the critical success factors in achieving the delivery of the programme outcomes. It is documented and proven that improving the quality and robustness of the individual schedules will improve the project team's performance and help deliver the overall execution of the project. From a programme perspective the underpinning information from the projects is also key to overall integrity.

| No | Check | Description | Limit |
|----|----------------------------|--|-------|
| 1 | Logic | This check identifies missing links in schedules or that the logic link is sensible | 5% ✓ |
| 2 | Leads | Leads (negative lags) distort the total float that is available in the schedule and can impact resource demand, out turn dates etc. | 0% ✓ |
| 3 | Lags | Lags can impact the analysis of the critical path | 5% ✓ |
| 4 | Relationship Types | Most relationships should be Finish to Start, the number of Finish to Finish and Start to Start must be limited | 10% ✓ |
| 5 | Hard Constraints | Hard constraints can prevent the logic from driving the schedule | 5% ✓ |
| 6 | High Float | This identifies tasks that have more than two months' float and challenges whether the logic is flawed | 5% ✓ |
| 7 | Negative Float | This identifies incomplete tasks with negative float. | ✓ |
| 8 | High Duration | This identifies tasks that have longer than a two month duration | 5% ✓ |
| 9 | Invalid Dates | This is a schedule check on whether future tasks have actuals applied | ✓ |
| 10 | Resources | This checks that all tasks in schedule have either money or resources allocated to them | ✓ |
| 11 | Missed Tasks | This checks on a % basis the number tasks that have missed the baseline dates | 5% ✓ |
| 12 | Critical Path Test | This is a test on the critical path to see if there is broken logic when a slip is introduced | ✓ |
| 13 | Critical Path length Index | This is a measure on purely of the realism of the critical path | ✓ |
| 14 | Baseline Execution Index | The baseline execution index measures tasks accomplished (completed only) against tasks planned for completion | ✓ |



We're active members of the **communities** we serve. That's why at Stantec, we always design with community in mind.



Why is the DCMA EVMs 14 point analysis needed?

On a large-scale capital programme schedules will be submitted from both the consultant and contractor supply chain on a monthly basis. This could result in well over one hundred schedules being given to the PMO every update cycle. To effectively understand if the schedules are fit for purpose, checks and balances have to be carried out by the PMO. The DCMA 14 point analysis is one of those checks and balances. In most industries the onerous task is now pushed back into the supply chain, not only to provide the schedule, but also the check validation material.

If the schedule does not reach a pre-agreed quality score it is rejected for reworking. By inserting this level of rigour, the quality of schedules has improved considerably and the level of project time-related failure has also reduced.

How does DCMA work?

Each part of the 14 point analysis has a mathematical calculation related to it. The calculations used in DCMA can be performed manually but it is recommended that a proprietary software is used so the benefits are not lost in the cost of preparing the analysis.

The elements of project weakness are identified and an improvement approach can then be implemented to correct the weakness.

Where does DCMA 14 point analysis help?

There are two key processes in DCMA 14 point analysis that we would carry out:

Compliance reviews

All projects within the programme have to be reviewed; by using pre-defined requisites that all parties follow, a general improvement of information quality occurs. As the rules are pre-defined the review and outcomes of the review can also be managed. For example if a contractor schedule does not meet the quality it is rejected and the contractor carries out remedial actions to bring the schedule in line. The process helps both the client and the delivery parties.

Programme analysis

Earned Value Management and all the metrics associated with it, has become one of the key project and programme management tools used by industry over the last 25 years. The quality of underpinning information has to be of a specific quality to make programme analysis effective and meaningful. Once a project has gained a specific level of quality assessed by the 14 point analysis, the confidence of information being reliable increases.

From a programme management perspective the DCMA process should be used throughout the project lifecycle; this maintains consistency even when the delivery responsibility changes to a different team / partner.

DCMA key points

The primary role of the DCMA 14 point analysis is to assess the overall technical structure of the schedule and ensure the fundamental rules of schedule development have been followed.

By applying the DCMA 14 Point analysis to an in-flight project it also allows you to evaluate whether the project's actual progress matches the project's baseline. The technique it uses is by checking the efficiency of performance against the baseline.

The DCMA 14 point analysis does not tell you why the schedule has issues and it does not tell you what the project and programme teams are doing to fix the issues.



Contact Information

Paul Taylor

Technical Director of Programme Management

t: 44 (0)1925 845 131

m: 44 (0)7595 448 772

e: Paul.Taylor@stantec.com

Contact Us

Stantec
Dominion House, Temple Court,
Warrington, WA3 6GD

Tel: 01925 845000

www.stantec.com

[Facebook.com/stantec](https://www.facebook.com/stantec) | [Twitter.com/stantec](https://twitter.com/stantec) | [YouTube.com/stantec](https://www.youtube.com/stantec)

Stantec have produced this leaflet in the aim of improving project & programme management, the values and ranges within it do not represent other companies and sectors etc