***SILVER–1 Project*. Summer 2020**

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| ***SILVER–1 Project*** |
| The project team has received the ***SILVER–1 Project*** as part of an RFP where a bonus would be rewarded if completed early but a penalty would be incurred if completed late. Although we could set the time of completion and the dollar amount for the project completed on time, the penalty and bonus requirements were set in the RFP. The requirements were presented in two parts.  (1) Whatever time of completion we proposed, a 5 day window would establish on time, early, or late completion. For example, if a time of completion was set on day 100 which implies [99<=TOC<=100], then the 5 day window would be days 100, 99, 98, 101, 102. Thus, the probability of completing the project on time would be P[97<=TOC<=102] since a time is interpreted as the end of a day. Also, probability of completing the project late is P[TOC>=102] and early is P[TOC<=97].  (2) Whatever monetary value we proposed for the project, a 25% bonus is awarded if early and a 60% penalty if late. Thus, for a proposal of $100 for the project, early would receive $125 and late would receive $40.  The activity list is familiar to the project team and the time estimates have been provided along with the predecessor activities and AON.   |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **SILVER–1 Project** | | | | | | | | | | | Activity | A | B | C | D | E | F | G | H | I | | Predecessor  Activities | --- | --- | A | A | B | C,D | D | E | G,H | | Optimistic, t1 | 20 | 65 | 75 | 80 | 110 | 118 | 71 | 27 | 12 | | Most Likely, t2 | 27 | 70 | 90 | 98 | 120 | 123 | 98 | 30 | 18 | | Pessimistic, t3 | 40 | 87 | 135 | 134 | 196 | 146 | 149 | 45 | 36 |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **AON** |  |  |  |  |  |  |  |  | |  |  |  | C |  |  |  |  |  | |  | A |  |  |  | F |  |  |  | |  |  |  | D |  |  |  |  |  | |  |  |  |  |  | G |  |  |  | |  |  |  |  |  |  |  | I |  | |  | B |  | E |  | H |  |  |  | | . |  |  |  |  |  |  |  | . |   You are requested to provide at least three options for the bidding proposal consisting of the proposed time of completion and price in thousands of dollars. However, an analysis is required for each option of crashing the project to receive the bonus as part of the deliberations before preparing a response to the RFP. The objective of the analysis is to identify possible bidding options that maximize the expected monetary value of the project after crashing. Of course, the time and price in the original bid is essential to be awarded the project.  Crashing an activity can only be achieved by a 10% reduction in the processing time. Although more than one activity can be crashed, no activity can be crashed more than 10%. Since crashing costs have been negligible in the past, it has been decided to not include the crashing costs in the initial analysis.  Prepare a report of your best options for inclusion in the RFP.  . . . |