ENVIRONMENTAL CLEARANCE PROCESS: CREATING TRANSPARENCY IN TRACKING USING PROJECT MANAGEMENT SOFTWARE

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***Abstract*: Almost all the countries in the world are committed for environmental friendly development these days. India is also not an exception and has introduced an EIA notification on 14th Sept. 2006 to keep a vigilant eye on all developmental activities throughout the country. Govt. of India, Ministry of Environment and Forest has reiterated its commitment towards sustainable development and made the prior environmental clearance mandatory for various development projects proposed across the country through this notification. Ministry has taken various steps in the form of decentralization of clearance process and provision of deemed clearance in this notification. All the projects have been divided in to A and B category depending on their threshold limits. B category projects to be cleared at state level by specially created regulatory authorities in the states, whereas A category projects to be cleared at Ministry level. A time frame specified for grant of TOR is 60 days while 105 days for EC from the date of submission of application by the proponent to the concerned regulatory authority respectively. A special provision of deemed clearance has been introduce to check the probable delay in the process of environmental clearance.**

The ministry of Environment, Forest and climate change, Govt. of India (MOEF & CC) updates the status of the clearance process of various projects on its website. It is learnt from the available date that proposed time frame for the various stages involved in the process of issue of TOR as well as EC are not adhere to. The delay in the process causes time and cost overrun of the project.

This particular paper proposes to use the project management software as a tool to monitor the progress of grant of environmental clearance to a specific project. This tool will automatically display the expected time line for a stage to be achieved in issue of EC, the moment we enter the date of receipt of the application. This being on the public domain will put pressure on the regularity authority to stick to the time frame stipulated in the notification. This revolutionary process will facilitate the monitoring of the whole activity and will compel the authorities to adhere to the time frame, ultimately putting a check on the delay in the issue of environmental clearance (EC).The scope of this paper is limited to tracking of only EC activity for 'A' and 'B' category projects

Key words: - Environmental Impact Assessment (EIA), Terms of Reference (TOR), Environmental Clearance (EC), State Level Impact Assessment Authority (SEIAA) and State Level Expert Appraisal Committee (SEAC)

I Introduction

All developmental activities are associated with the risk of environmental degradation. Whenever a development project is executed, there is every possibility of loss of wild life, forest cover, disturbance of natural drainage, rehabilitation and resettlement of local habitat etc. in addition associated with the pollution of air, water, noise and soil etc. of the surrounding area .But it does not mean that one should stop the developmental activity due to environmental degradation. This is a major challenge of modern era that how should we go for the maximum development with minimum damage to the environment.

Environment Impact Assessment is used to assess the probable damage to the local environment due to a proposed development activity. This technique is used worldwide to arrive at a conclusion that whether one should go for the project or not and with what sort of mitigative measures to check the environmental degradation.

In India the regulatory authority responsible to accord prior environmental clearance is the Ministry of Environment, Forest and Climate Change, Govt. of India. The clearance to a project has been accorded as per the provision of EIA notification of 2006 issued by MOEF & CC exercising the powers confirmed by Environment Protection Act 1986.

II. The Environment Clearance Process in India.

It is mandatory to obtain a prior environmental clearance from a regulatory authority for the following eight category projects.

I. Mining, extraction of natural resources and power generation
II. Primary processing
III. Materials production
IV. Material processing
V. Manufacturing and fabrication
VI. Service sector
VII. Physical infrastructure including environmental services
VIII. Building construction and area development project

A national level regulatory authority for environmental clearance of "A" category projects has been constituted at MOEF & CC level whereas for the clearance of "B" category projects, the regulatory authorities (SEIAAs) have been constituted at various state levels. These authorities will base their decision on the recommendations of the expert appraisal committee (EAC) at national level and state level expert appraisal committee (SEAC) at state level, constituted as per the provision of the same EIA notification. The EAC/SEAC will comprise of the experts from various fields who can foresee the possible threats to the environment by a particular activity. Following four stages have been mentioned in the EIA Notification for environmental clearance:

a. Screening (only for "B" category projects)
b. Scoping.
c. Public consultation.
d. Appraisal.

2.1. Screening

This stage deals with the scrutiny of the application submitted in the prescribed form I for determining, whether the project requires further environmental studies for preparation of environmental impact assessment (EIA) before granting a prior environmental clearance to the project. This will further categorize the project into B1 or B2 (B1 requiring EIA report while B2 does not require it).

2.2. Scoping

All A/B1 category projects need to be suggested a comprehensive terms of reference (TOR) addressing all relevant environmental concerns in respect of the proposed activity. The EAC/SEAC will finalize the TOR on the basis of the information furnished by the project proponent. EAC/SEAC members can visit the proposed site if necessary.

The TOR shall be conveyed to the proponent within a period of 60 days from the date of submission of form I or IA. The regulatory authority can reject the proposal on the recommendations of EAC/SEAC. It should be communicated to the proponent within 60 days from the date of submission of form I or IA stating reasons for rejection. This activity of issue of TOR is further subdivided in to various sub activities for the purpose of tracking.

2.3. Public Consultation:-

It is the most important step involved in the whole process. The public consultation has been included in the process to ascertain the concerns of the affected local people and others who have a possible stake in the environmental impacts of the projects. Public consultation is mandatory for all A and B category projects except some exemptions. This mainly includes construction activity. In the public consultation process objections and suggestions are collected from the public during meeting at proposed site or received in writing.

2.4. Appraisal

It means the detailed scrutiny of the application, final EIA report submitted by the proponent and the objections and suggestions raised during public consultation. The EAC/SEAC has to take a final decision about granting or rejecting the prior environmental clearance on the basis of above information. The committee can also call the proponent or his representative for any clarification if required. The committee shall make categorical recommendations to regulatory authority for grant of prior environmental clearance on necessary terms and conditions or rejection of application mentioning reasons for same.

The process of appraisal shall be completed by the expert appraisal committee within a period of 60 days from the date of submission of final EIA report.

III Grant or Rejection of Prior Environmental Clearance:-.

The regulatory authority shall consider the recommendations of the appraisal committee and convey its decision to the proponent within 45 days from the date of receipt of the recommendation of the appraisal committee.

In normal circumstances, the recommendations of the expert appraisal committee shall be accepted by the regulatory authority. In case of disagreement, the regulatory authority can send the proposal back to the expert appraisal committee for reconsideration within 45 days of its receipt.

The expert appraisal committee shall reconsider the proposal and will send its views to the regulatory within a period of 60 days from the date of receipt. The decision of the regulatory authority (after considering the views of expert appraisal committee) shall be final and communicated to the proponent within 30 days.

If the proponent has not been communicated the decision by the regulatory authority within the stipulated time period mentioned above; the applicant is free to proceed as if the environmental clearance has been granted / denied as per the final recommendation of the expert appraisal committee.

IV Tracking Tool and Methodology:-

The authors propose to use Microsoft Project 2013 as a tracking tool to monitor the stage wise progress of the clearance process with respect to the time frame mentioned in the EIA notification. The reason for choosing MSP- 2013 as a monitoring tool is that

most of the people are already aware of Microsoft interface which will in turn lessen the requirement of intensive training to the users.

The whole process of environmental clearance involves two major activities.

A) Issue of TOR

B) Issue of environmental clearance

The project proponent has to apply to get a TOR from the regulatory authority for preparing EIA report. In this paper the authors have discussed the use of MSP for tracking grant of EC only with special emphasis on 'B' category projects cleared at state level.

A. Tracking of issue of EC for 'B' category projects

The sub activities to be tracked for issue of EC with their durations and logics are mentioned below. Mainly following ten sub activities are identified by the authors to be monitored. Under the activity of issue of EC, Each sub activity has been given specific duration, so that the whole activity can be completed within 105 days i.e. stipulated time period for issue of EC in the EIA notification.

TABLE 1.

S. No	Sub Activity	Duration in days	Predecessor
1	Query for short coming by SEIAA (If any)	5	--
2	Resubmission of proposal by proponent (If applicable)	5	1
3	Accepted by SEIAA and forwarded to SEAC	5	2
4	Query for shortcoming by SEAC (If any)	5	3
5	Resubmission of proposal by proponent (If applicable)	5	4
6	Accepted by SEAC	30	5
7	Forwarded to SEIAA for EC	5	6
8	Considered by SEIAA	25	7
9	EC granted	5	8
10	Communication to PP	15	9
	TOTAL	105	

The sub activities together with their duration and logics are feed to MSP 2013 and the duration of "EC grant process" is calculated automatically by software as 105 days, calendar considered is of 5 working days. Also the logic between all the sub activities is finish to start and there is a single path so it is obvious that all the sub activities are critical. Delay in any sub activity will delay the complete process of issue of EC:-

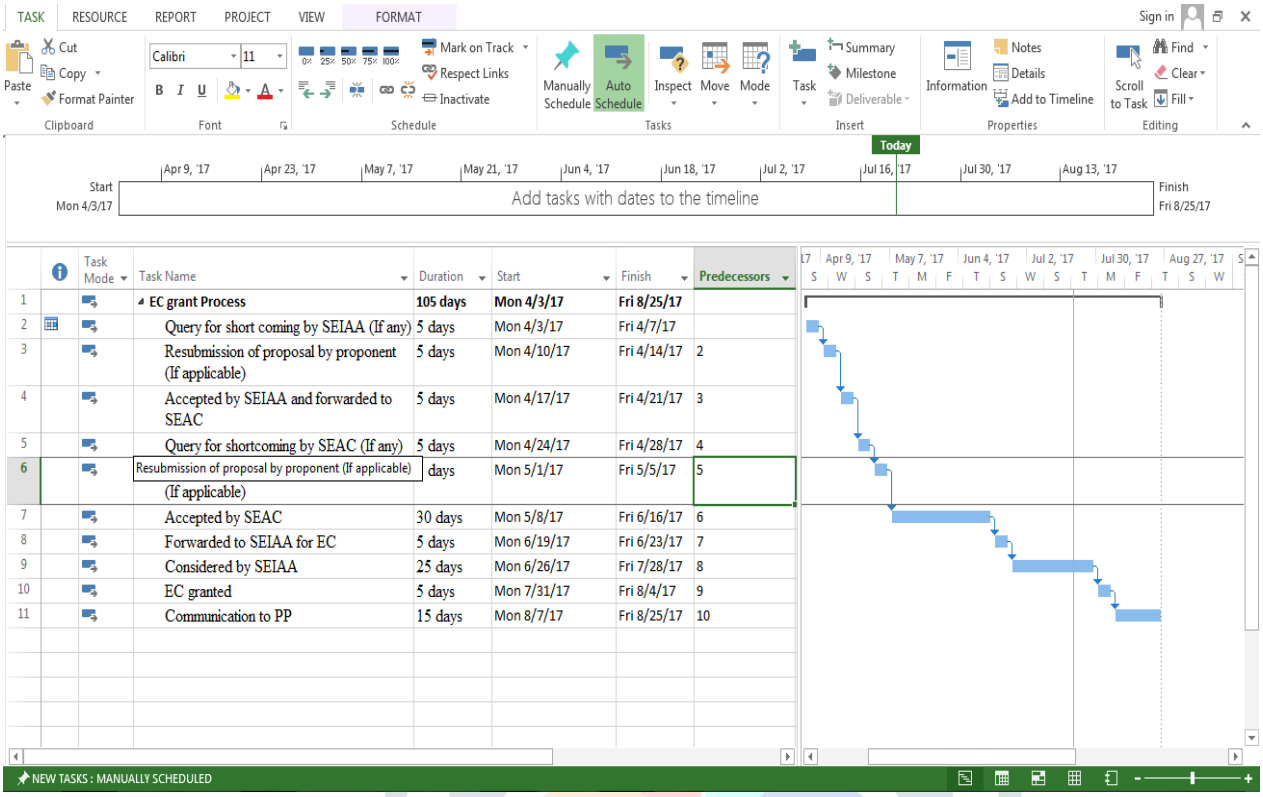
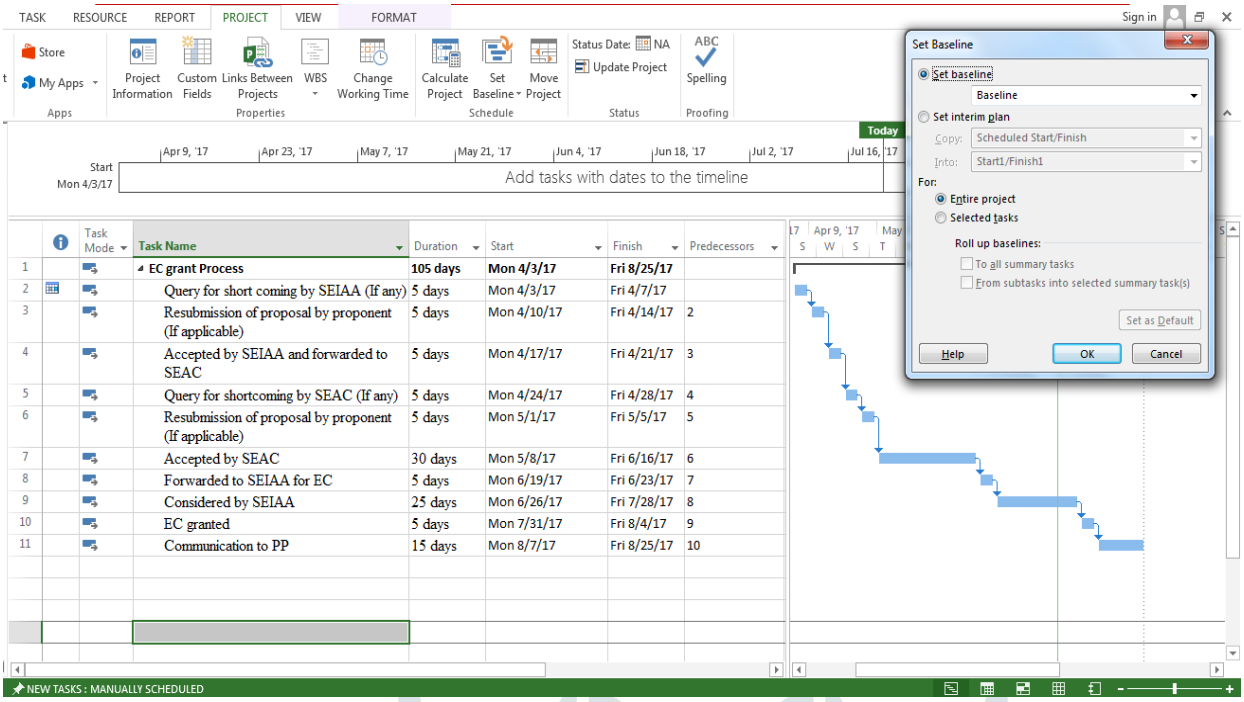


Fig.1

Receipt date of application of EC will be the starting date of first sub activity. The software will calculate the start and finish date of all the sub activities the moment the start date of first sub activity is entered in to the software by the regulatory authority. The baseline start and finish date for various sub activities will be shown against the respective sub activity. After the receipt of the application form by the regulatory authority the baseline is set for the project by going to project ribbon and then set baseline command as shown below:-

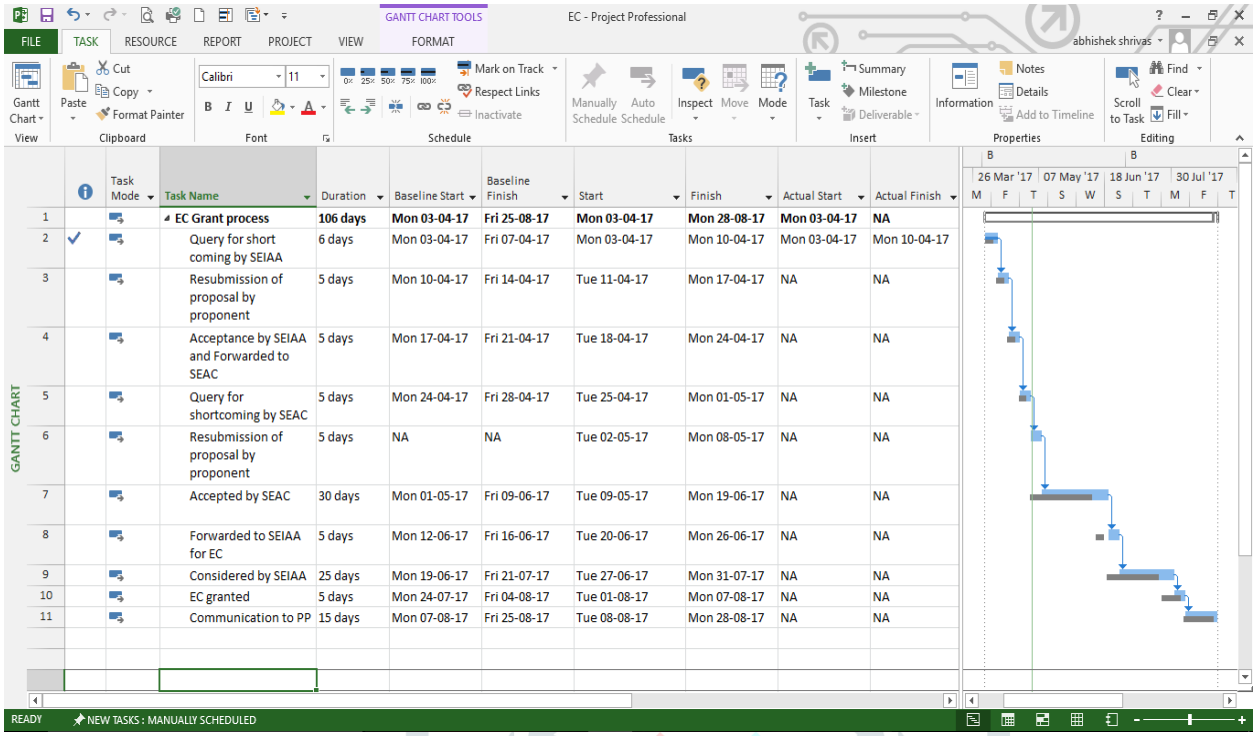


	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**EC grant Process**	**105 days**	**Mon 4/3/17**	**Fri 8/25/17**	
2		Query for short coming by SEIAA (If any)	5 days	Mon 4/3/17	Fri 4/7/17	
3		Resubmission of proposal by proponent (If applicable)	5 days	Mon 4/10/17	Fri 4/14/17	2
4		Accepted by SEIAA and forwarded to SEAC	5 days	Mon 4/17/17	Fri 4/21/17	3
5		Query for shortcoming by SEAC (If any)	5 days	Mon 4/24/17	Fri 4/28/17	4
6		Resubmission of proposal by proponent (If applicable)	5 days	Mon 5/1/17	Fri 5/5/17	5
7		Accepted by SEAC	30 days	Mon 5/8/17	Fri 6/16/17	6
8		Forwarded to SEIAA for EC	5 days	Mon 6/19/17	Fri 6/23/17	7
9		Considered by SEIAA	25 days	Mon 6/26/17	Fri 7/28/17	8
10		EC granted	5 days	Mon 7/31/17	Fri 8/4/17	9
11		Communication to PP	15 days	Mon 8/7/17	Fri 8/25/17	10

Fig.2

Now after scheduling the project and setting up of baseline, the project is ready to be monitored by updating it as the time go. The start and finish dates of the proposed time frame becomes baseline start and baseline finish dates of the sub activities of the project. The concerned regulatory authority has to update the sub activities by putting up actual finish dates. The moment first sub activity is over and its finish date is entered the software will readjust the start and finish dates of subsequent sub activities based on predecessor sub activity.

The start and finish columns now show the new adjusted date of commencement and completion according to the delayed or early finish of the predecessor sub activity. Also for a finished sub activity, it takes actual dates as start and finish date. The new duration is adjusted accordingly by the software taking into consideration the delay e.g. 106 days against 105 days in our case. Refer Fig. 3 below.



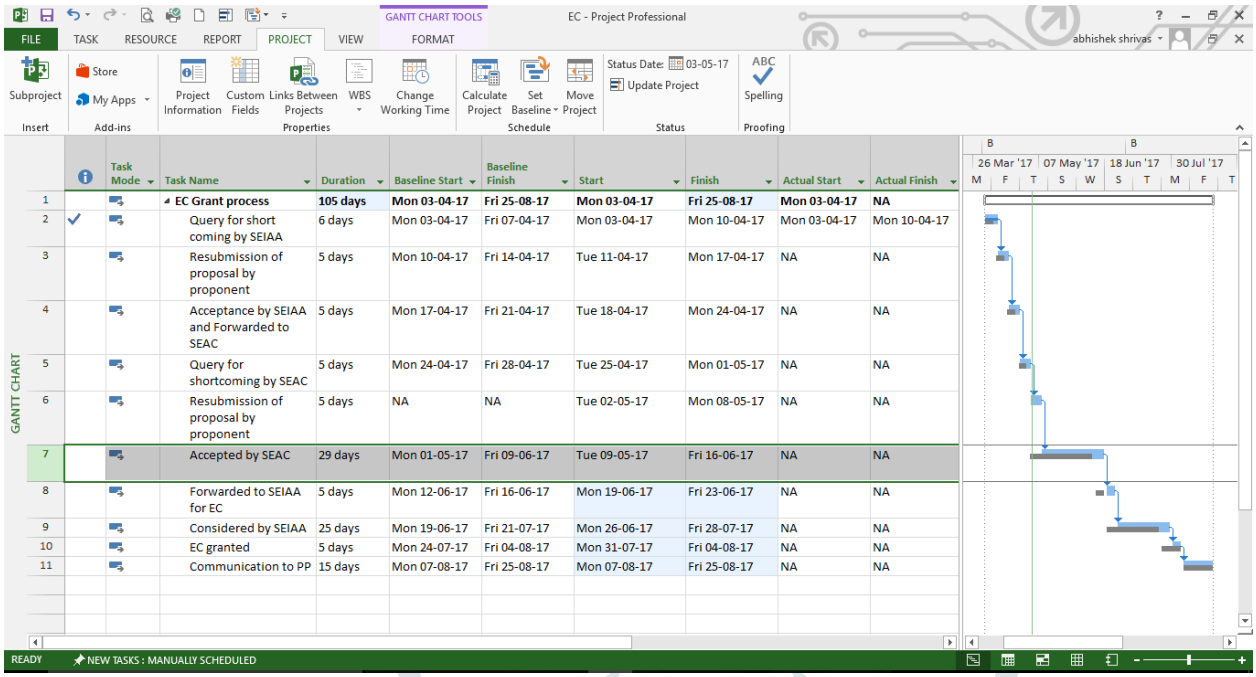
	Task Mode	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish	Actual Start	Actual Finish
1		**EC Grant process**	**106 days**	**Mon 03-04-17**	**Fri 25-08-17**	**Mon 03-04-17**	**Mon 28-08-17**	**Mon 03-04-17**	**NA**
2		Query for short coming by SEIAA	6 days	Mon 03-04-17	Fri 07-04-17	Mon 03-04-17	Mon 10-04-17	Mon 03-04-17	Mon 10-04-17
3		Resubmission of proposal by proponent	5 days	Mon 10-04-17	Fri 14-04-17	Tue 11-04-17	Mon 17-04-17	NA	NA
4		Acceptance by SEIAA and Forwarded to SEAC	5 days	Mon 17-04-17	Fri 21-04-17	Tue 18-04-17	Mon 24-04-17	NA	NA
5		Query for shortcoming by SEAC	5 days	Mon 24-04-17	Fri 28-04-17	Tue 25-04-17	Mon 01-05-17	NA	NA
6		Resubmission of proposal by proponent	5 days	NA	NA	Tue 02-05-17	Mon 08-05-17	NA	NA
7		Accepted by SEAC	30 days	Mon 01-05-17	Fri 09-06-17	Tue 09-05-17	Mon 19-06-17	NA	NA
8		Forwarded to SEIAA for EC	5 days	Mon 12-06-17	Fri 16-06-17	Tue 20-06-17	Mon 26-06-17	NA	NA
9		Considered by SEIAA	25 days	Mon 19-06-17	Fri 21-07-17	Tue 27-06-17	Mon 31-07-17	NA	NA
10		EC granted	5 days	Mon 24-07-17	Fri 04-08-17	Tue 01-08-17	Mon 07-08-17	NA	NA
11		Communication to PP	15 days	Mon 07-08-17	Fri 25-08-17	Tue 08-08-17	Mon 28-08-17	NA	NA

Fig.3

This gives a clear picture to regulatory authority as well as to the project proponent for monitoring purpose as they have all the dates visible i.e. the initial planned dated (baseline dates), actual dates and finally the anticipated dates as per the delays or early finish, if any.

Ministry can assess the performance of every state level regulatory authority (SEIAA)whereas Proponent can also track the activity of issue of EC for his own project.

The software also gives a facility to the regulatory authority to reduce the duration allotted for a specific sub activity to accommodate the delay caused by any preceding sub activity, so as to finish the total EC process within the specified duration of 105 days as shown in Fig. 4.

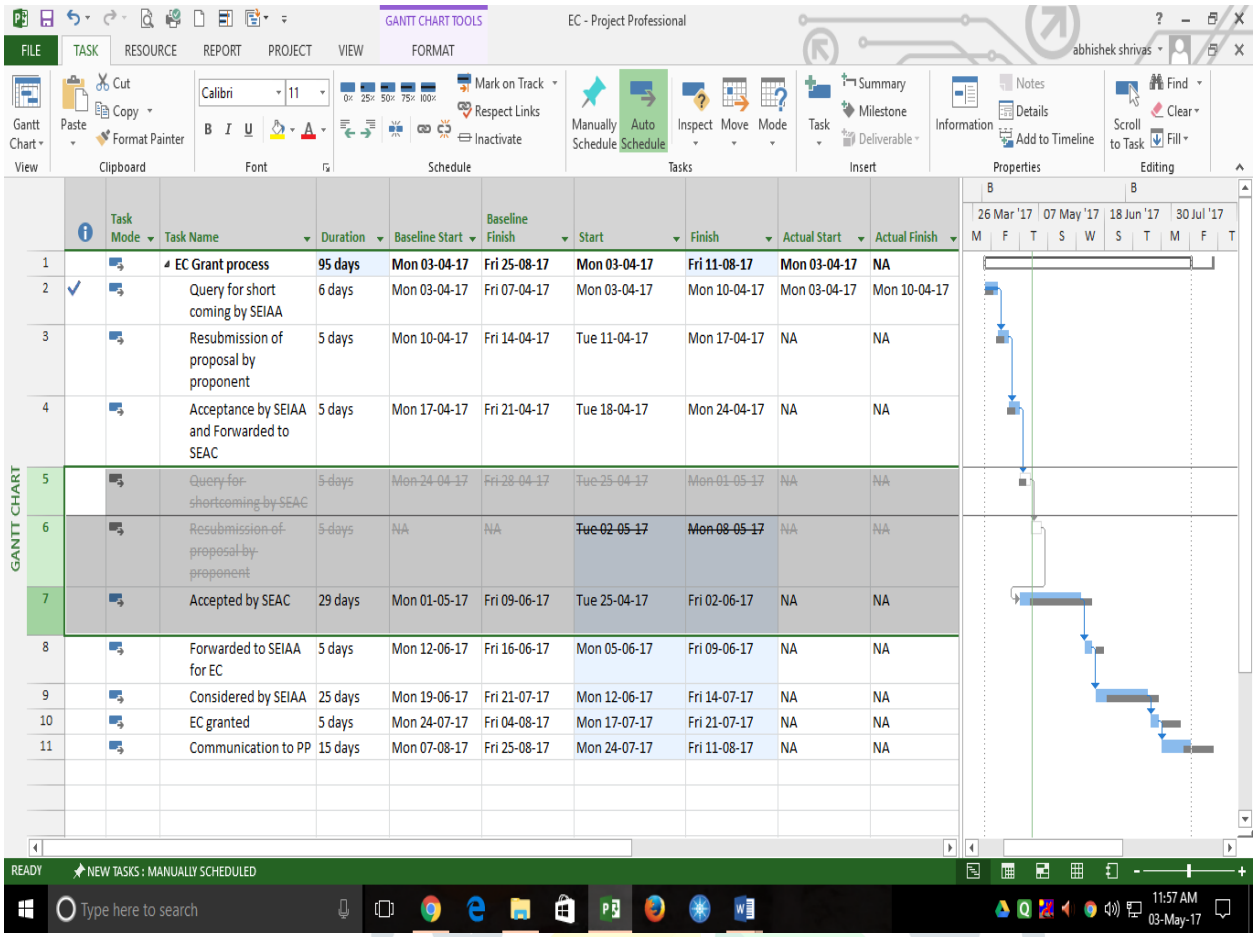


	Task Mode	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish	Actual Start	Actual Finish
1		**EC Grant process**	**105 days**	**Mon 03-04-17**	**Fri 25-08-17**	**Mon 03-04-17**	**Fri 25-08-17**	**Mon 03-04-17**	**NA**
2		Query for short coming by SEIAA	6 days	Mon 03-04-17	Fri 07-04-17	Mon 03-04-17	Mon 10-04-17	Mon 03-04-17	Mon 10-04-17
3		Resubmission of proposal by proponent	5 days	Mon 10-04-17	Fri 14-04-17	Tue 11-04-17	Mon 17-04-17	NA	NA
4		Acceptance by SEIAA and Forwarded to SEAC	5 days	Mon 17-04-17	Fri 21-04-17	Tue 18-04-17	Mon 24-04-17	NA	NA
5		Query for shortcoming by SEAC	5 days	Mon 24-04-17	Fri 28-04-17	Tue 25-04-17	Mon 01-05-17	NA	NA
6		Resubmission of proposal by proponent	5 days	NA	NA	Tue 02-05-17	Mon 08-05-17	NA	NA
7		Accepted by SEAC	29 days	Mon 01-05-17	Fri 09-06-17	Tue 09-05-17	Fri 16-06-17	NA	NA
8		Forwarded to SEIAA for EC	5 days	Mon 12-06-17	Fri 16-06-17	Mon 19-06-17	Fri 23-06-17	NA	NA
9		Considered by SEIAA	25 days	Mon 19-06-17	Fri 21-07-17	Mon 26-06-17	Fri 28-07-17	NA	NA
10		EC granted	5 days	Mon 24-07-17	Fri 04-08-17	Mon 31-07-17	Fri 04-08-17	NA	NA
11		Communication to PP	15 days	Mon 07-08-17	Fri 25-08-17	Mon 07-08-17	Fri 25-08-17	NA	NA

Fig.4

Here the initial duration allotted to sub activity 7 was 30 days which is than reduced to 29 days for bringing down the total project duration from 106 days to 105 days by absorbing the delay caused in previous sub activity.

The software also gives flexibility to inactive a subtask if it's not in the process for a particular EC and the duration of the subtask is adjusted in the final Project duration. For e.g. here in our example sub task 5 and 6 are considered and their respective duration is 5 days each which cumulatively becomes 10 days. Now making both the subtasks inactive will have an impact on schedule as its total duration reduced to 95 days and start of activity 7 is now in relation with subtask 4 automatically



	Task Mode	Task Name	Duration	Baseline Start	Baseline Finish	Start	Finish	Actual Start	Actual Finish
1		EC Grant process	95 days	Mon 03-04-17	Fri 25-08-17	Mon 03-04-17	Fri 11-08-17	Mon 03-04-17	NA
2		Query for short coming by SEIAA	6 days	Mon 03-04-17	Fri 07-04-17	Mon 03-04-17	Mon 10-04-17	Mon 03-04-17	Mon 10-04-17
3		Resubmission of proposal by proponent	5 days	Mon 10-04-17	Fri 14-04-17	Tue 11-04-17	Mon 17-04-17	NA	NA
4		Acceptance by SEIAA and Forwarded to SEAC	5 days	Mon 17-04-17	Fri 21-04-17	Tue 18-04-17	Mon 24-04-17	NA	NA
5		~~Query for shortcoming by SEAC~~	~~5 days~~	~~Mon 24-04-17~~	~~Fri 28-04-17~~	~~Tue 25-04-17~~	~~Mon 01-05-17~~	~~NA~~	~~NA~~
6		~~Resubmission of proposal by proponent~~	~~5 days~~	~~NA~~	~~NA~~	~~Tue 02-05-17~~	~~Mon 08-05-17~~	~~NA~~	~~NA~~
7		Accepted by SEAC	29 days	Mon 01-05-17	Fri 09-06-17	Tue 25-04-17	Fri 02-06-17	NA	NA
8		Forwarded to SEIAA for EC	5 days	Mon 12-06-17	Fri 16-06-17	Mon 05-06-17	Fri 09-06-17	NA	NA
9		Considered by SEIAA	25 days	Mon 19-06-17	Fri 21-07-17	Mon 12-06-17	Fri 14-07-17	NA	NA
10		EC granted	5 days	Mon 24-07-17	Fri 04-08-17	Mon 17-07-17	Fri 21-07-17	NA	NA
11		Communication to PP	15 days	Mon 07-08-17	Fri 25-08-17	Mon 24-07-17	Fri 11-08-17	NA	NA

Fig. 5

B. Tracking of issue of EC for 'A' category projects

The time line detail for 'A' category projects are shown in table 2:-

TABLE 2

S. No	Sub Activity	Duration in days	Predecessor
1	Query for short coming by MOEF (If any)	5	--
2	Resubmission of proposal by proponent (If applicable)	5	1
3	Accepted by MOEF and forwarded to EAC	5	2
4	Query for shortcoming by EAC (If any)	5	3
5	Resubmission of proposal by proponent (If applicable)	5	4
6	Accepted by EAC	30	5

7	Forwarded to MOEF for EC	5	6
8	Considered by MOEF	25	7
9	EC granted	5	8
10	Minitize	5	9
11	To EAC for reconsideration	15	10
12	Query by EAC	10	11
13	Submission of information by PP	10	12
14	Reconsideration by EAC	30	13
15	Recommendation to MOEF	10	14
16	Consideration by MOEF	15	15
17	Grant/rejection of EC (Minutes)	5	16
18	Communication to PP	10	17
	Total	200	

Rest of the process from formulation of the project in MSP to scheduling, update and tracking remain same as discussed for 'B' category projects above.

V Conclusion:-

Ministry of Environment, Forest& Climate Change had stipulated a time frame for all the stages of environmental clearance and also introduced a unique provision of deemed clearance in the EIA notification of 14th Sept 2006. The intention behind this provision is to speed up the environmental clearance process but a strict compliance of this provision need to be ensured by use of an effective monitoring tool. Project management software can be of great help to project proponents in assessing the status of environmental clearance of their proposed project where as performance of various regulatory authorities engaged in the clearance process can also be reviewed by the ministry.Enabling Tracking of the clearance process at different stages using this software makes the process transparent.

The above research paper describes use of MSP for tracking the issue of EC as per the above mentioned EIA notification of 2006, by various regulatory authorities i.e. at national and state level. By using this software following objectives can be achieved.

i. The proponent will be aware by the base line finish dates of all the sub activities and the actual finish dates of the same activities after the regular updates by the regulatory authority.
ii. This will make the regulatory authorities as well as the project proponent aware about the actual slippage (deviation) from the base line time.
iii. The software is capable of making the regulatory authority aware about the time period left to finish the whole activity after considering the delay up to a particular stage of clearance process.
iv. This can help the Ministry also to evaluate the performance of various State level authorities and can take the corrective measures for improvement.

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