OFFICE MEMORANDUM

No.6/10/Reorient CSIR/2021/2   **September 20, 2021**

Sub: New Guidelines for Project Monitoring in CSIR – Formulation of Lab and Theme Strategic Groups

1   Background

Research and Development in CSIR includes almost all branches of Science and Technology with a special emphasis on industry-oriented R&D. The research is being carried out by 37 labs across the Nation in terms of numerous projects funded by CSIR, other government agencies, foreign institutions, academic institutions, industries, etc. Thus, responsible formulation, efficient execution and successful completion of projects is the core of CSIR activities.

The term "Project Monitoring" becomes one of the vital segments in the overall R&D activities in CSIR. The major role of project monitoring is not only in aligning the project with the initial established schedule but also ensuring the seamless availability and right usage of resources such as manpower, material and finances. Additionally, this assures that consistent effort has been put uniformly throughout the project duration and prevents any fire-fighting situation which could potentially lead to substandard and/or compromised outcomes. Project monitoring promises timely detection and response for any issues occurring in the project as well as prevention of any problem occurrences.

2   Need for efficient project monitoring

In the 10th Global Project Management Survey, it has been estimated that almost 75% failures in projects are primarily due to two reasons – First is the Lack of clear communication (includes within the team, with the senior management, with the stakeholders, across the various groups of the organization such as purchase, finance, etc. which aids the project) and second is the Lack of clearly defined and/or achievable milestones and objectives to measure progress of the project. The former is pertaining to designing an efficient project monitoring system which is the focus of the OM and the later will be improved by implementing Stage-Gate Model (OM No.6/10/Reorient CSIR/2021/1 dated 7th September 2021).

Typically, monitoring and managing a single activity is quite straight forward. However, a project, being collection of numerous, parallel and interdependent activities with definite deliverables/milestones performed by a team of individuals with wide range of expertise to achieve the end goal, is highly difficult to manage. Following up on the status of various activities and managing their dependencies throughout the project is

extremely crucial which is accomplished by Project Monitoring. The major advantages of project monitoring are as follows –

- Improved project transparency
- Enhanced resource management
- Creates checkpoints for better control over project execution
- Significantly reduces the risk of delayed deliveries
- Empowerment of the project team and enhanced coordination between the project team and the supporting departments such as administration, purchase and finance
- Channel for seamless information flow between the project team and the respective stakeholders

Presently, Research Councils (RCs) comprised of eminent experts from various fields are reviewing all the laboratory projects. However, few more layers of project monitoring are needed to closely review the progress of the project and provide timely intervention for mitigation of any shortcomings. Further, for CSIR funded projects, Task Force and External Monitoring Committees are in place. Overall, project monitoring in CSIR needs to be strengthened as per the recommendation of the CSIR Reorientation Committee.

3 Important Aspects of Project Monitoring

A project involves significant utilization of most important resources in organization such as money, manpower and time. Hence, it is vital to channelize the resources effectively and ensure that every unit consumption of these resources result in the overall growth of the organization. Thus, project monitoring is crucial. However, to have an effective project monitoring, it is important to understand the various aspects of project monitoring – modes of monitoring, critical processes and major challenges faced in project monitoring.

3.1 Modes of project monitoring

The widely used project monitoring modes are by written communication (Report and other documentation), verbal communication (Presentation and Meetings) and using project monitoring software for real-time/online monitoring. Reports/project documentation should be precise, to the point and are more effective when it records the right concern to the right person for a timely decision. Meetings are the traditional tools to monitor the progress of any project. Each mode of monitoring has its own merits and demerits. Hence, it is recommended that a combination of the modes to monitor a project. Every major monitoring meeting will be preceded by submission of report by the project team and offline critical review of the report by the monitoring team. In addition, tracking the project activities online is also an emerging trend employed in project monitoring. Appropriate software tool for project management is in the process of development and will be released soon.

3.2 Critical processes in project monitoring

1. Designing the project proposal - The entire project monitoring process is built on how good the project is designed. Thus, for any type of monitoring to be effective, initial well-defined project planning with quantizing the project in terms of Gantt chart, Pert chart, Defining measurable milestones, Listing the KPIs/SMART goals at every milestone of the project, potential risks involved, bottlenecks in the course of the project etc. in the proposal is highly important.

2. Major parameters in project monitoring:

    i. Project goal and ongoing tasks –
        o Duration of the tasks – understanding the delay / quicker completion of any tasks and ensuring the quality is not compromised
        o Whether the ongoing tasks are as per plan and are aligned in the direction for reaching the overall project goal. If identified deviating, the monitoring team ensures it is aligned back and focused to achieve the goal
    ii. Project manpower management
        o Team capacity – whether sufficient manpower is allocated to the project
        o Team members and their contribution in ongoing tasks – Scrutinizing the individual employee activity and if significant contribution has not been made by a team member, he/she can be dynamically allocated to other projects
    iii. Budget handling – Most important component of project monitoring includes the following
        o Ensuring the budget is spent on right items/services as per the requirement of the project
        o Analysing total budget handling in terms of budget indented/in process, budget spent and budget pending
        o If any delay in processing the budget, the SPO/CoSP and/or FAO/CoFA can be consulted for resolving the issue at the earliest.
    iv. Involving the stakeholder – Stakeholders can be involved wherever possible, at the starting to define the specifications clearly, in the course of the project to tune the specifications and at the end of the project for seamless technology transfer.

3. Following up after the monitoring meeting:

    i. Preparing the duly approved meeting minutes with clear action items and circulating to all the members.
    ii. Any decisions/ approvals taken in the meeting should be indicated in the minutes and the same can be used as a formal supporting

       document in processing any files such as related purchase/accounts/other administration works, etc.

iii.   The points in the earlier meeting minutes are discussed in subsequent meeting

iv.   All the meeting minutes should be archived by the Project Leader for record purpose

3.3 Other challenges faced

The major hurdles that reduces the efficiency of project monitoring are enlisted as follows:

- Lack of transparency – Sometimes reports and/or presentations does not completely reveal the critical facts in the project and lack responsible preparation. This misleads the guidance offered or the decision making by the Monitoring Committee
- Lack of detailed and/or critical feedback – Sometimes the presenter as well as the Monitoring Committee tends to be diplomatic and avoid negative details/comments. This results in an illusion of "everything good and as planned". Critical feedback/ review motivates the project team to prepare good quality report and better involvement in the monitoring meetings
- Lack of communication among the team –'Team' communication here refers to both inter and intra communication of project team and monitoring team. Improper communication leads to Abiline paradox where a group makes a collective decision that is opposite to the thoughts of the individual members
- Lack of follow-up – Action items resulted in the monitoring meetings are typically not followed up and/or not implemented will further weakens the very purpose of the project monitoring
- Lack of stake-holder involvement – Project monitoring from a stake holder's perspective is different from that of experts. Hence, involving stakeholder in the monitoring meetings periodically helps in aligning the project and improves the probability of project success.

It is ensured that conscious efforts have been taken both by the Monitoring Committee and Project Team to overcome the above-mentioned challenges.

4 Project monitoring in CSIR

During the COVID-19 Pandemic, CSIR Strategy Group (CSG) has been instrumental in planning and monitoring all the COVID related projects and eventually came out as a successful mode. In the similar lines, in addition to RC, it is recommended the formation of two Strategic Groups - one in respective lab's names (eg: AMPRI Strategic Group, CEERI Strategic Group, IICT Strategic Group, etc.) for monitoring all the lab projects and other as respective Theme Strategic Group (eg. AEISS Strategic Group, Civil Infrastructure & Engineering Strategic Group), etc. to work as Theme's Think-tank.

In all the meetings (lab/theme/HQ) it is ensured that the activities are monitored as mentioned in section 3.2 and conscious efforts have been taken by Strategic Groups, the Monitoring Committee and Project Team to overcome the challenges mentioned in Section 3.3.

4.1 Lab Level Monitoring

Lab level project monitoring shall be done at the following two levels:

4.1.1 Lab Strategic Group (LSG)

Every CSIR Lab/Institute shall constitute a Lab Strategic Group (LSG) with the following composition:

- Director-Chairperson
- 3 Senior Principal Scientists and above from different groups in the lab
- Controller of Administration / Administrative Officer
- Controller of Finance and Accounts / Finance and Accounts Officer
- Controller of Stores and Purchase / Stores and Purchase Officer
- Head, Business Development
- Head, Project Monitoring & Evaluation-Member Secretary
- DG nominated RC Member from CSIR Headquarters-Invitee

(Note: If a CSIR lab has CoA, CoFA and CoSP, they shall be member of LSG. In the absence of such an officer, the option given as alternative should be opted. If the lab does not have PME, then Head, Business Development shall be Member Secretary.)

This committee shall meet once in a week on fixed date and fixed time to review the lab activities including development of new projects, review of on-going projects, technology transfer matters, any other vital activities etc. Projects can be selected in advance for presentation by PIs. All scientific and technical matters and problems related with manpower, funds, purchase concerning to that projects shall be discussed and resolved. Member Secretary shall prepare detailed minutes and after the approval of Chairperson of LSG shall circulate to all members including PIs. Approved minutes shall be circulated within 2 days of the meeting and in any case must be done before next weekly meeting. A database of minutes shall be maintained by Member Secretary. All FBR, NCP, CSIR-FIRST, FTT and FTC Projects sanctioned to the lab by CSIR Hqrs shall also be monitored by LSG.

4.1.2 Research Council

The composition and terms of reference of Research Council of Labs (RCs) have been notified earlier by CSIR Headquarters. There shall be no change in that notification.

4.2 Headquarters Level Project Monitoring

Headquarters level projects shall be monitored at the following levels:

4.2.1 Mission Director level monitoring / Steering Committee:

All Mission Mode Projects shall be monitored by the Mission Director through virtual meetings with all the PIs on monthly basis. Nodal Scientist from the Nodal lab shall prepare minutes of the meeting and with the approval of Mission Director shall circulate to all the PIs.

NMITLI Projects shall be monitored as per the extant guidelines on quarterly basis. There shall be no change in the CCEA approved monitoring mechanisms of NMITLI Projects.

4.2.2 External Monitoring Committee (MC)

Monitoring Committee including members from Academia, CSIR and Industry shall be constituted for FBR, NCP, CSIR-FIRST, FTT, FTC, Mission mode projects for each of the 8 themes with the approval of Director General, CSIR. Monitoring Committee shall not have less than 3 members with no upper limit. The terms of reference of the Monitoring Committee are:

i.   To review and examine the progress of the project in conformance with the milestones, targets and objectives set as contained in the project document;
ii. To assess the global developments impacting the domain of the project;
iii. Based on the foregoing to assess and recommend for:
    (a) foreclosing or dropping or modification in the components of the project, within the overall approved objectives, budget and timeframe;
    (b) including additional institutional / industrial partners, in the overall interest of the project; and
    (c) revising the funding support;
    (d) extending the project duration; if necessary

Monitoring Committee shall meet as frequently as per the requirements of Stage-Gate but not later than 6 months. The meeting shall be organized by respective directorates of CSIR Headquarters dealing with the kind of projects. These directorates shall maintain proper records of the meeting for future reference and for audit purposes.

NMITLI Projects shall be monitored as per the CCEA approved monitoring mechanisms.

4.2.3 Theme Strategic Group (TSG)

Theme Strategic Group (TSG) shall be constituted by TMD-SeMI with the approval of Director General, CSIR. Composition of TSG shall be as per given below:

- Director General, CSIR-Chairman

- Theme Director
- Directors of labs majorly working in the Theme
- Head, TMD-SeMI, Head-TMD-II, Head-IMD, Head-CPD
- Nodal Scientist from TMD-SeMI/TMD-II-Convenor

TMDs shall organize meeting of one theme specific TSG/week. Thus, TSG meeting for a theme shall occur on bi-monthly basis. The functions of the TSG shall be as follows:
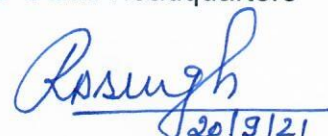
- Act as a think tank and manage the portfolio of the respective theme;
- Identify the area for CSIR intervention, help in the formulation of new proposals and maximize inter lab collaboration;
- Progress review of critical projects in the theme and take steps for timely delivery;
- Steers futuristic direction of the theme - ensures that in addition to the activities which has immediate market potential/application, futuristic activities in emerging areas and global trends are being taken up parallelly;
- Ensures No obsolete/near obsolete/market incompetent/sub-standard activities are being carried out within the theme;
- Empower to recommend dropping off obsolete research area in the labs under the theme;
- Ensures minimal to zero duplication of R&D areas/projects/proposals across the CSIR labs in the theme; and
- Aligns all the activities with the stakeholder ministries, market needs, national mission, NITI Aayog's directives, global demands such as SDGs, IPCC policy, etc.

However, TSG shall not be involved in routine monitoring of projects of the theme. The convenor shall be responsible for preparing, circulating and archiving the duly approved meeting minutes.

5 Applicability

The recommended project monitoring shall come into effect with the date of issue of this OM. All running/new projects under the category of FBR, NCP, CSIR-FIRST, FTT, FTC, Mission Mode, NMITLI, MLP and externally sponsored project both government agency/industry will be monitored as per the OM. The table in Annexure I summarizes the project monitoring to be implemented as detailed above.

Each laboratory is requested to provide copy of OM constituting Lab Strategy Group (LSG) and fixed data and fixed time of the meeting in the week, to CSIR Headquarters by September 30, 2021.

(Rajendra Prasad Singh)
Head, Innovation Management Directorate

Copy to:

1. Directors of CSIR laboratories (With a request for circulation among scientists)
2. Office of Director General, CSIR
3. Office of Joint Secretary (Admin.), CSIR
4. Office of Financial Advisor, CSIR
5. Heads of all Directorates at CSIR Headquarters
6. Head, IT – with request to upload this OM on CSIR website
7. Office Copy

Monitoring Group	Overall responsibility for constitution and meeting scheduling of the monitoring committee	Frequency of the meeting	Applicability
Lab Strategic Group (LSG)	Head, PME of the respective lab	Every week on fixed day and fixed time	All projects, new proposals, technology transfers, MoUs, NDA and any other matter (Scientific/ technical/ administrative)
Research Council	Head, CPD and Scheduling by the Director	Half yearly (at least)	All projects
Mission Director Monitoring	Nodal Scientist of Nodal Lab	Every month	Mission mode projects (as per the stage-gate requirements)
NMITLI Steering Committee	IMD, CSIR Headquarter	Quarterly	All NMITLI projects (as per the stage-gate requirements)
Theme Strategic Group	TMD-SeMI, CSIR Headquarter	Bi-monthly (One theme per week)	R&D Activities and portfolio management
External Monitoring Committee	Respective Directorates in the Headquarter	NMITLI Projects (as per CCEA approved mechanisms/stage gate requirements) FBR, NCP and FIRST (Half yearly) Mission mode, FTT and FTC (as per the stage-gate requirement but maximum half-yearly interval)	