



## Automated Mitigation Monitoring and Reporting

### AUTOMATED MITIGATION MONITORING AND REPORTING IN THE 21ST CENTURY WITH ENVIRONMENTAL MANAGEMENT INFORMATION SYSTEMS

One of the fundamental purposes and requirements of the California Environmental Quality Act (CEQA), also known as Public Resources Code Division 13, Environmental Protection, §21000 et seq. (Statutes), is the reduction of significant environmental impacts (PRC §21002.1(a)(b)).



To implement this requirement, the Statutes mandate a lead agency to adopt fully enforceable mitigation measures, and adopt a mitigation monitoring and reporting program (MMRP) to ensure that the measures are implemented (PRC §21081.6 and 14 CCR §15091(d)).

#### REQUIREMENTS

Neither the Statutes nor the CEQA Guidelines require the use of a particular format to compile and submit information under a mitigation monitoring or reporting program. Lead agencies have a considerable amount of discretion in setting the quantity and nature of monitoring information required and on the forms to be used to furnish the information. The Office of Planning and Research (OPR) has published several examples of reporting forms, although it does not require the use of any particular example.

Regardless of the format, the MMRP must fulfill the following requirements:

- 1 It must be designed to ensure compliance during project implementation.
- 2 Mitigation measures must be fully enforceable through permit conditions, agreements, or other measures.

In addition, lead agencies may adopt standardized policies and requirements providing guidance for monitoring or reporting programs (14 CCR §15097(e)). Accordingly, such policies and requirements can be adopted to describe:

- 1 Agency responsibilities for specific aspects of monitoring;
- 2 Project proponent responsibilities;
- 3 Guidelines for the contents of monitoring or reporting programs;
- 4 Standards for determining compliance with mitigation measures, project revisions, and related conditions or approval;
- 5 Enforcement procedures for noncompliance, including administrative appeal procedures; and
- 6 A process for informing staff and decision-makers of the relative success of mitigation measures so that future mitigation measures can be improved.

#### COMPLIANCE TRACKING

MMRPs can be very complex and involved. For example, an Environmental Impact

Report/Environmental Impact Statement (EIR/EIS) for a 120-mile pipeline or power line construction project may contain over 100 pages of mitigation measures for pre-

Project Month	August, 2009	Next Month
01	02	03
04	05	06
07	08	09
10	11	12
01	02	03
04	05	06
07	08	09
10	11	12

construction, and operation of the project. The details and compliance checklists may add an additional burden to the myriad of other regulatory and permitting requirements to keep the job project on schedule and on budget. Tracking the status and progress of the mitigation measures by pencil and spreadsheet no longer makes good business sense. Automating the process streamlines the effort associated with MMRP compliance; provides

accountability and assurance of compliance; and provides transparency and accountability in reporting to regulatory agencies, stakeholders, proponents, and environmental watchdog groups.

## AUTOMATION

An automated MMRP approach will better organize MMRP compliance on the job site and in the office while using commercial-off-the-shelf (COTS) software and CEQA/ National Environmental Policy Act (NEPA) Subject Matter Experts (SME). This integration provides a tailored solution that balances overall project goals with specific day-to-day project requirements. Automated MMRPs can:

- 1 Organize complex MMRP tasks for execution and ease of reference;
- 2 Organize MMRP tasks for both the construction and operation of projects;
- 3 Provide instant assurance and peace of mind that compliance tasks are complete and reported;
- 4 Proactively provide a clear record of mitigation compliance as evidence for project stakeholders and regulators;
- 5 Electronically organize files, records, and logs for ease of reference;
- 6 Find information easily by searching for keywords or categories electronically;
- 7 Send reminders for compliance and mitigation tasks by sending automatic email messages and calendar ticklers;
- 8 Send electronic updates to the office from the field to keep records current;
- 9 Easily incorporate into critical path schedules or personal calendars to stay on track with tasks;
- 10 Greatly reduce the potential to incur fines from regulators as a result of non-compliance and disorganization;
- 11 Reduce the delays and extra costs created by work stoppages;
- 12 Impress regulatory inspectors with accurate, organized, up to date project compliance data presented in a report that is quickly generated and easy to read.

Typically when a job has multiple, repeating mitigation measures within MMRP compliance, the cost of labor

hours spent on implementing and tracking compliance is significantly reduced by the cost of automating.

## INTEGRATED FUNCTIONALITY

For large multi-year projects with aggressive construction schedules, the automated MMRP can be integrated with other software components to provide additional functionality and rapid processing such as:

- 1 Project management and scheduling
- 2 Handheld field devices or Personal Digital Assistants (PDA)
- 3 Financial and personnel management
- 4 Document management (revision versioning and storage/retention)
- 5 Reporting – Text, Graphical/Dashboard and Spatial/Geographic Information Based (GIS).

## WHERE DO I START?

Before a system can be deployed, a rapid requirements review should be conducted to identify unique or special data types that should be tracked and managed in the system. Often an existing application review is conducted

to assess whether any already licensed applications can be leveraged to track mitigation monitoring requirements. If existing applications do not exist, various applications are available on the market and can be acquired to meet most requirements.

Whether an existing application or a newly licensed application is chosen, the next step is to deconstruct the MMRP into discrete permit requirements with associated recurrence and responsible parties. This deconstructed information is then loaded into the application and output reports are developed. Then, like any database project, standard information technology (IT) protocol must be completed such as system installation, testing, training, and integration. The deployment process requires both domain as well as IT experts for overall success and typically takes 2-4 months to complete.

The screenshot shows a web-based form for entering task information. It is divided into several sections: 'Enter Task Information', 'Enter creation / recurring information', and 'Enter requirement information'. The 'Enter Task Information' section includes fields for 'Action Item template name', 'Description', 'URL', 'Responsible', and 'Responsible Manager'. The 'Enter creation / recurring information' section includes fields for 'First Due Date', 'Begin Creating', 'End Creating', and checkboxes for 'Recurring', 'Irregular', and 'Enable'. The 'Enter requirement information' section includes fields for 'Requirement Group', 'Requirement General', and 'Requirement Detail'.