Best Management Practices & Success Stories

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U.S. Army Corps of Engineers, Engineering and Support Center, Huntsville Environmental and Munitions Centers of Expertise
Project Delivery Business Process (PDBP)

Three complementary imperatives govern the successful completion of projects.
Project Delivery Business Process (PDBP)

1. One Team
   One Project
   One Project Manager

Project Management Plan (PMP):
Manage all Projects with a PMP

Project Delivery Team (PDT):
The PDT is responsible for project success
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- Manage all Projects with a PMP

Project Delivery Team (PDT):
- The PDT is responsible for project success

The heart of PDBP is results-focused teamwork
Project Delivery Team (PDT)

PDT consists of everyone necessary for successful development and execution of all phases of the project.

All PDT members are an integral part of the success of the project.
One Project – One Team
Identify and Prevent the Data Gaps

It all starts with the Systematic Planning Process
The Systematic Planning Process (SPP)

SPP supports decision making using a weight of evidence (WoE) approach, which is based on multiple lines of evidence in the CSM. The WoE process consists of systematically weighing and evaluating evidence (both quantitative and qualitative), leading to a conclusion that is best supported by all the information in the CSM. It considers the relevance, strength, and reliability of all data, and promotes informed, defensible decisions on MRSs. SPP ensures the Conceptual Site Model (CSM) is developed through a collaborative effort between the PDT, regulators and major stakeholders. The CSM is a key project-planning and decision-making tool and must be updated regularly as data is acquired throughout the project. EM 200-1-15 May 2022

EM 200-1-15 provides SPP activity overview
For each step, it provides
• Inputs
• Activities
• Outputs
Identifies participants needed
### Systematic planning process Sessions 1 & 2

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Remedial Design RFP-Contract Award Work Plan Preparation</th>
<th>Remedial Implementation</th>
<th>Final Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalized PMP Activity</td>
<td>Pre-Award Systematic Project Planning</td>
<td>Contract RFP, Evaluation &amp; Award Contract</td>
<td>Project QAPP</td>
</tr>
<tr>
<td>MR-QAPP Activity</td>
<td>Planning Session 1</td>
<td>Planning Session #2</td>
<td>n/a</td>
</tr>
</tbody>
</table>

#### Participants:
- LEAD-key; REG
- LEAD-key; KO/OC
- LEAD-key; REG; CONTR-key
- LEAD-key; REG; CONTR-field; REG (for DUA and other needed tasks)
- LEAD-key; CONTR-key; CONTR-field; REG (for DUA and other needed tasks)
- LEAD-key; REG; CONTR.rpt.

#### Inputs:
- All available data from the RI, FS, ROD, ASR, etc.
- Planning Session 1 Outputs
- Planning Session 2 Outputs
- Finalize PWS
- Finalize Evaluation Criteria
- Issue RFP
- Site Visit
- Finalize Independent Government Estimate
- Conduct Source Selection and Evaluation Board
- Finalize Rights-of-Entry

#### Activities:
- Site Visit
- Contracting Officer or COR approves Project QAPP Deliverable
- Final Project QAPP
- Final QASP
- Field Data
- Project QAPP
- Geophysical Mapping & Analysis outputs
- Cored or Out-Pass AGC data

#### Outputs:
- Worksheet 11 DQO
- Worksheet 11 DQO Steps 3 & 4
- Worksheet 9 updated
- Draft PWS
- Draft Evaluation Criteria
- Draft Independent Government Estimate
- Draft QASP
- Final Project QAPP
- Final QASP
- QA Seed Plan(s) for High Density Area Characterization
- Major Milestone Complete

#### Note:
- Red text indicates an activity that includes contracting (KO or COR)
# Systematic Planning Process Participants

## Generalized PMP Activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>Pre-Award Systematic Project Planning</th>
<th>Contract RFP, Evaluation &amp; Award Contract</th>
<th>Project QAPP</th>
<th>Remediation Implementation</th>
<th>Final Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning Session #1</td>
<td>Planning Session #2</td>
<td>n/a</td>
<td>Planning Sessions 3 &amp; 4</td>
<td>Geophysical Mapping &amp; Data Analysis</td>
<td>RA Field Work</td>
</tr>
</tbody>
</table>

## MR-QAPP Activity

- **LEAD-key; REG**
- **LEAD-key; REG**
- **LEAD-key; CONTR-key**
- **CONTR-key**
- **CONTR-field; REG**

## Participants

- **LEAD-key; REG**
- **LEAD-key; CONTR-key**
- **CONTR-field; REG**
- **LEAD-key; REG; CONTR-key**
- **LEAD-key; CONTR-key; CONTR-field; REG**
- **LEAD-key; CONTR-key; CONTR-field; REG**

## Inputs

- All available data from the RI, FS, ROD, ASR, etc.
- Planning Session #1 Outputs
- Finalize PWS & Finalize Evaluation Criteria Issue RFP Site Visit
- Site Visit
- Contracting Officer or COR Support Project
- IVS Installation
- Equipment Assemblies
- Site Prep
- Geophysical Mapping
- Project QAPP
- Geophysical Mapping & Analysis Outputs
- Used or One-Pass AGC Data

## Outputs

- Outputs from Geophysical Mapping and Analysis, Source Characterization and Target of Interest Investigation
- Draft RA Report
- Accessible Assemblies

## Lead Agent Key Personnel (LEAD-key)

- Project Manager
- Contracting Officer
- Representative
- Technical Manager (if not Geophysicist)
- Lead Agent Geophysicist
- Lead Agent Chemist
- Lead Agent Risk Assessor
- Lead Agent OESS
- Lead Agent EM CX (optional)

## Contracting/Control (KOC/OCC)

- Lead Agent Contracting Officer
- Lead Agent Office of Counsel

## Lead Regulator (REG)

- Lead Regulator Project Manager
- Supporting Staff (as determined by the Lead Regulator PM)

## Contractor Key Personnel (CONTR-key)

- Contractor Project Manager
- Contractor Technical Manager (if not Geophysicist)
- Contractor Project Geophysicist
- Contractor QC Geophysicist
- Contractor Geophysicist Process(ors)
- Contractor Geophysicist Team Leader(s)
- Contractor Geophysicist Team Member(s)
- Contractor GIS Manager/Member(s)
- Contractor MXSO
- Contractor UXO Team Leader(s)
- Contractor UXO Team Members

## Contractor Field Personnel (CONTR-field)

- Contractor Geophysical Surveyor
- Contractor Geophysical Survey Team(s)

## Contractor Report Authors (CONTR-opt.)

- Contractor Project Manager
- Contractor Technical Manager
- Contractor Project Geophysicist
- Contractor Project Chemist
- Contractor Risk Assessor
- Contractor MFC Operations Specialist
General RD-RA Workflow and Planning

<table>
<thead>
<tr>
<th>Planning Session #1 through Final MEC Remedial Action Report</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generalized PMF Activity</strong></td>
</tr>
<tr>
<td>General RD-RA Workflow and Planning</td>
</tr>
<tr>
<td>MR-QAPP Activity</td>
</tr>
<tr>
<td>Participants:</td>
</tr>
<tr>
<td>Inputs:</td>
</tr>
<tr>
<td>Activities:</td>
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<tr>
<td>Other Activities:</td>
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<td>Outputs:</td>
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**Site Visits**

WS #10 and #11 before RFP

**Prepare and Award Contract**
WS #9, #10, and #11: Where do you begin?

Planning tool for characterization and remediation of MEC at MRSs
- Module 1: RI/FS
- Module 2: RA

Provides guide for completing QAPP
- **Black text** = min. recommended requirements
- **Blue text** = examples
- **Green text** = instructions
Identifying key questions

Before we start the project, it’s essential to answer some key questions –

• What do we know about the site?
• What is the end result of this phase?

To answer these questions, we need to start thinking about –

• The conceptual site model (CSM) – UFP-QAPP WS #10
• The data quality objectives (DQOs) – UFP-QAPP WS #11

“If you don’t know where you want to go, how will you know when you get there?”
WS #10: Conceptual Site Model (CSM)

Current understanding of site
• Types of MEC/MC and areas where they are located
• Terrain considerations
• Access restrictions

Narrative description supported by:
• Tables, maps, figures, and graphics
Assists in developing investigation strategy and DQOs

Should be in good shape at the RA stage!
### Facility, Physical, Release, & Land Use & Exposure Profiles: Consider how these elements relate to the phase.

<table>
<thead>
<tr>
<th>Facility Profile</th>
<th>Physical Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Site location, size and ownership</td>
<td>- Accessibility</td>
</tr>
<tr>
<td>- Identification of munitions and hazardous substances known or suspected to be present</td>
<td>- Topography and vegetation</td>
</tr>
<tr>
<td>- Concise summary of relevant findings from previous investigations</td>
<td>- Geologic and hydrogeologic setting</td>
</tr>
<tr>
<td>- ROE status</td>
<td>- Climate</td>
</tr>
<tr>
<td></td>
<td>- Endangered species, sensitive habitats, and cultural resources</td>
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<td></td>
<td>- Areas that are or might be inaccessible to investigation</td>
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</tbody>
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# WS #10: CSM – Elements

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<th>Release Profile</th>
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  - ROE status | - Accessibility  
  - Topography and vegetation  
  - Geologic and hydrogeologic setting  
  - Climate  
  - Endangered species, sensitive habitats, and cultural resources  
  - Areas that are or might be inaccessible to investigation | - Location and distribution of munitions and hazardous substances  
  - Horizontal AND vertical  
  - Affected environmental media  
  - Anomaly densities?  
  - The areas being addressed by the selected remedy |

| Land Use and Exposure Profile | - Current and anticipated land uses  
  - Neighboring land uses  
  - Current and reasonably anticipated future receptors and exposure pathways  
  - Access conditions  
  - Temporal restrictions?  
  - Limitations on ROE? |
<table>
<thead>
<tr>
<th>Physical Profile</th>
<th>Release Profile</th>
<th>Land Use and Exposure Profile</th>
</tr>
</thead>
</table>
| - Accessibility                      | - Location and distribution of munitions and hazardous substances  
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<table>
<thead>
<tr>
<th>Release Profile</th>
<th>Land Use and Exposure Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Location and distribution of munitions and hazardous substances - <em>Horizontal AND vertical</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Affected environmental media</em></td>
<td></td>
</tr>
<tr>
<td>- <em>Anomaly densities</em>?</td>
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<td>- Access conditions - <em>Temporal restrictions?</em></td>
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<td>- <em>Limitations on ROE?</em></td>
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WS #10: CSM – Elements

Land Use and Exposure Profile

- Current and reasonably anticipated land uses
- Neighboring land uses
- Current and reasonably anticipated future receptors and exposure pathways
- Access conditions
  - Temporal restrictions?
  - Limitations on ROE?
WS #10: CSM – Elements

Land Use and Exposure Profile

- Current and reasonably anticipated land uses
- Neighboring land uses
- Current and reasonably anticipated future receptors and exposure pathways
- Access conditions
  - Temporal restrictions?
  - Limitations on ROE?

Each of these profile elements relate to the phase with input from all the PDT.
Data Quality Objective?

DQOs let us know **WHEN THE PROJECT IS DONE**

Or, more specifically, when we have project data of

- The right type(s)
- Sufficient quantity
- Adequate quality

... to confirm CSM and demonstrate the selected remedy has been implemented

DQOs HAVE to be measurable!

**Remember! If the CSM changes, DQOs may need to change**
WS #11: How the DQO Process “Flows”

Step 1 – State the Problem

Step 2 – Identify the decision to be made

Step 3 – Identify the inputs to the decision

  What data do we need to answer those questions?

Step 4 – Define the study boundaries

  What are the limits on data collection?

Steps 5 through 7 - Technical Approach

  How do we use the data?
  What are the standards for data usability?
  How do we collect the data?

The DATA needs and limitations WE define drive the approach we get!
WS#9: PROJECT PLANNING SESSION
SUMMARY

For each planning session (inc. pre-award)
Meeting purpose, dates, and locations
Attendees, roles, and contact information
Meeting summary
  Consensus decisions made
  Action items
  Regulator and stakeholder concerns
Other notes/comments

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
<th>Phone</th>
<th>E-mail</th>
<th>Project Role</th>
</tr>
</thead>
</table>

 Document, Document, Document !
### Other SPP Discussions Prior to Solicitation

<table>
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<tr>
<th>Anomaly detection/classification issues</th>
<th>Explosives safety considerations Biological and Cultural Resource Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Anomaly density estimates</em></td>
<td>Pre-solicitation, determine biological and cultural resource needs</td>
</tr>
<tr>
<td><em>Anomaly reduction (saturated areas)</em></td>
<td>Include in planning and in PWS</td>
</tr>
<tr>
<td>Production rates</td>
<td></td>
</tr>
<tr>
<td><em>Depth of classification considerations</em></td>
<td></td>
</tr>
<tr>
<td>Coverage exclusions (ROD/ROE or other)</td>
<td></td>
</tr>
</tbody>
</table>

### Specific technology limitations or expectations

<table>
<thead>
<tr>
<th>Did government (ROD) say analog anywhere?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does an Item of Concern (IOC) require unique approaches?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Draft Quality Assurance Surveillance Plan (QASP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required for service contracts</td>
</tr>
<tr>
<td>Alerts contractor who is doing what and when</td>
</tr>
<tr>
<td>Should really reference project QAPP in many places</td>
</tr>
</tbody>
</table>
Lessons learned

When you’re buying a car, do you…
   Just ask the salesman for “a car”? OR Tell them your preferences and expectations?

Use Systematic Planning Process (SPP)
It helps us organize our thinking about the project.
Gets the government and the regulators on the same page before award.
Allows our regulators and stakeholders buy in before the award.
Assemble the RIGHT team.
Provides a consistent outline for communication!

BENEFITS: It helps outline potential roadblocks with:
   Confusion and later disagreement on the CSM
   Cultural and ecological concerns at the site
   Vegetation cutting restrictions
   Potential schedule delays
   Stakeholder issues/concerns
Lessons learned continued

Conduct SPP meetings BEFORE we finalize PWS & QAPP Worksheets 9 - 11

SPP Meetings 1 & 2 Outputs help outline the project
  What we currently know about the site
  What needs to be done
  Our key expectations for the project regarding data collection
  Stakeholder issues/concerns
  Sets up a better project for our contractors to bid and understand

Contractors aren’t psychic! We can’t expect them to know everything we want or need.
If we don’t clearly outline Worksheets 10 & 11, it’s likely we’ll be disappointed by the result.
Still more lessons learned...

Ensure PWS & QAPP WS#9
Use the ROD

Conduct pre-proposal site visits
Pre-RFP and pre-award

Discuss and document the issues
Anomaly density estimates and
Depth of classification considerations
Access limitations
Coverage exclusions
Specific technology expectations
Explosives safety considerations
Biological and Cultural Resources
Draft QASP

Use the Project Management Plan (PMP) & the QAPP
Outline the communication and schedule

“Regulator X has noticed at other FUDS sites even meeting the deadlines set by the Corps documents have been finalized without any possibility considering time involved of the Corps considering Regulator X comments. It is like the decision has been made even before Regulator X comments have arrived much less reviewed. As mentioned above, Regulator X expects due consideration on comments concerning FUDS site issues.”
SPP 1 & 2 feeds into The RFP & Evaluation

SPP 1
- Worksheet 10 CSM (preliminary)
- Worksheet 11 DQO Steps #1 & #2
- Worksheet 9 updated

SPP 2
- Worksheet 11 DQO Steps #3 & #4
- Worksheet 9 updated
- Draft PWS
- Draft Evaluation Criteria
- Draft Independent Government Estimate
- Draft QASP

Contract RFP, Evaluation & Award Contract

SPP 1 & 2 feeds into The RFP & Evaluation
It’s a package deal

1.0 OBJECTIVE

The overall accepted approach to Compensatory Regulations must be achieved through "Neutral Confidences" or "Neutral Confidences". CLINs will be evaluated for fairness, reasonableness, and comparability.

1.0 BACKGROUNDS

Technical Approaches (TAs) employed within this RFP must be used to accomplish project goals. TAs should be concisely and effectively communicated in a manner that is consistent with the overall project goals.

1.1 The objective of this Chemical, Environmental, and Remedial (CERM-RU) Multiple Award Task Order Program is to develop and implement cost-effective, innovative solutions that meet or exceed the project goals. The Contractor is expected to provide comprehensive, reliable, and cost-effective solutions to the challenges presented by the project.

1.2 The Contractor shall perform Environmental, Health, and Safety (EHS) and Federal, State, and Local regulations in accordance with the requirements of the project. This includes, but is not limited to, the implementation of site-specific EHS programs, training, and adherence to all relevant regulations.

1.3 The Contractor shall ensure that all work is performed in a safe and environmentally sound manner, with a focus on minimizing impacts to the environment and community. This includes the implementation of effective waste management practices, compliance with all relevant environmental regulations, and the mitigation of any potential environmental risks.

1.4 Specific services and task activities are described in Task Order Summary Tables, which provide a general understanding of the work to be performed. Task Orders will contain the specific performance requirements.
Lessons learned - AWARD

OUTPUTS from SPPs 1 & 2 are crucial to develop the PWS and set up the project for success.

NEED Worksheets 9-11 before award.

NEED critical issues identified before award to ensure contractors can include in their proposal, decrease assumptions and develop a robust schedule.

The better the communication to develop Worksheets 10 & 11, the better the PWS is outlined.
The better the PWS and WS 9 from SPP 1 & 2, the better the Final UFP-QAPP.
The better the UFP-QAPP, the better the field work.
The better the field work, the better data and analysis.
WHICH RESULTS IS A HAPPY TEAM.
Questions