

Achieving Greater Success Through Strong Partnerships

November 14-17, 2023 • Kansas City, MO

Best Management Practices & Success Stories

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Environmental and Munitions Centers of Expertise



Three complementary imperatives govern the successful completion of projects



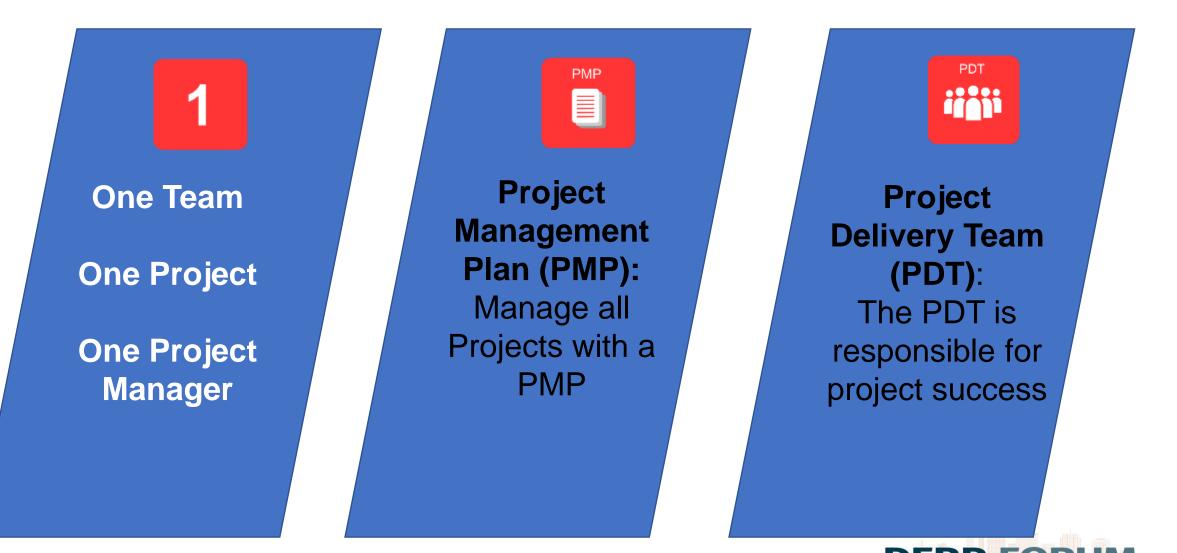


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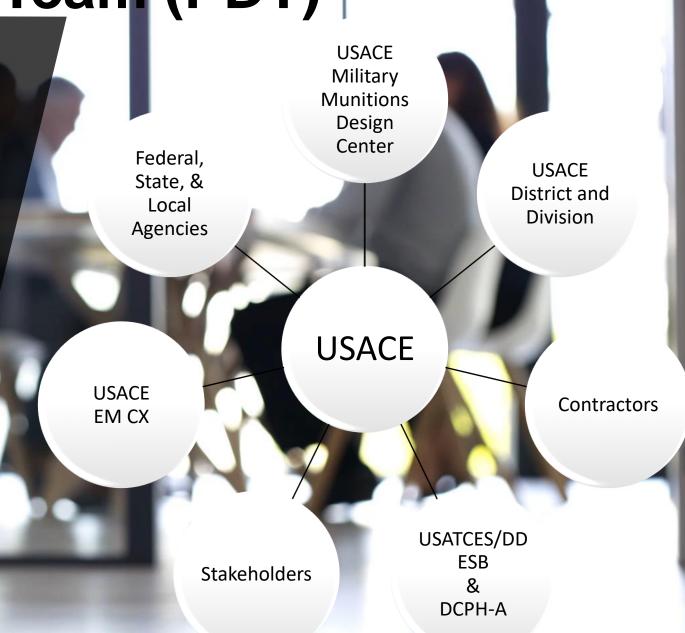


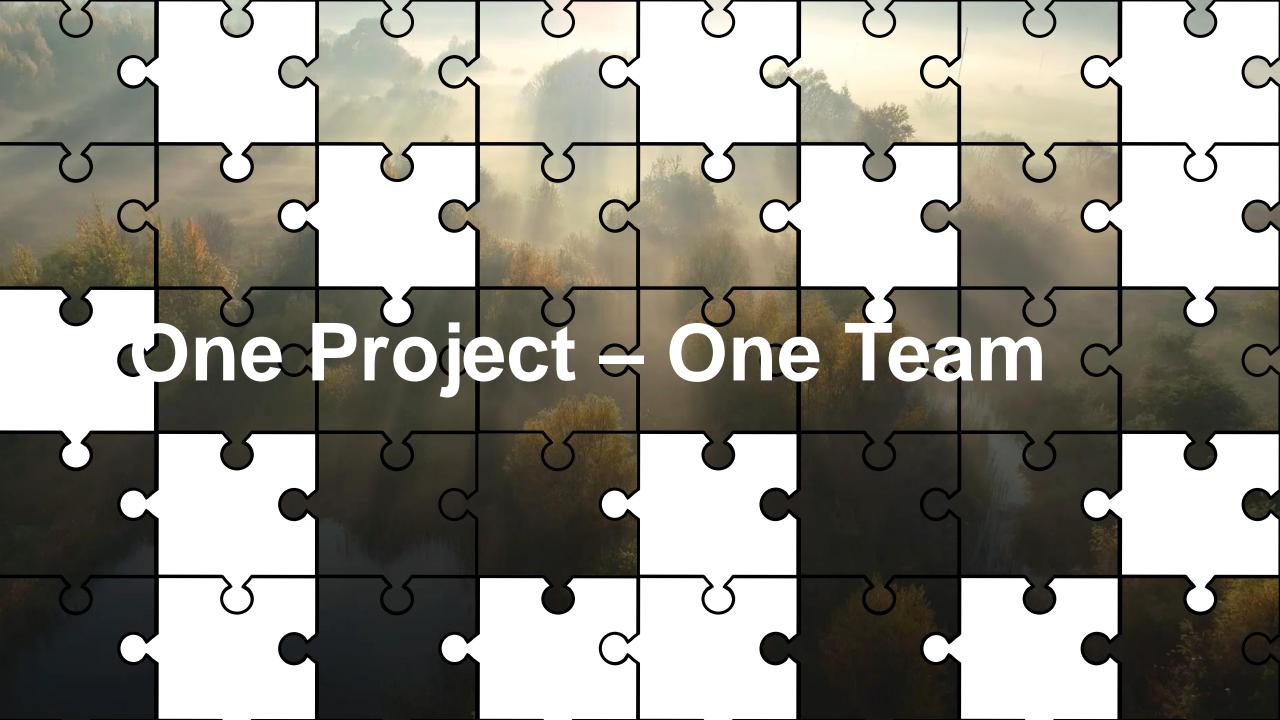


Project Delivery Team (PDT)

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

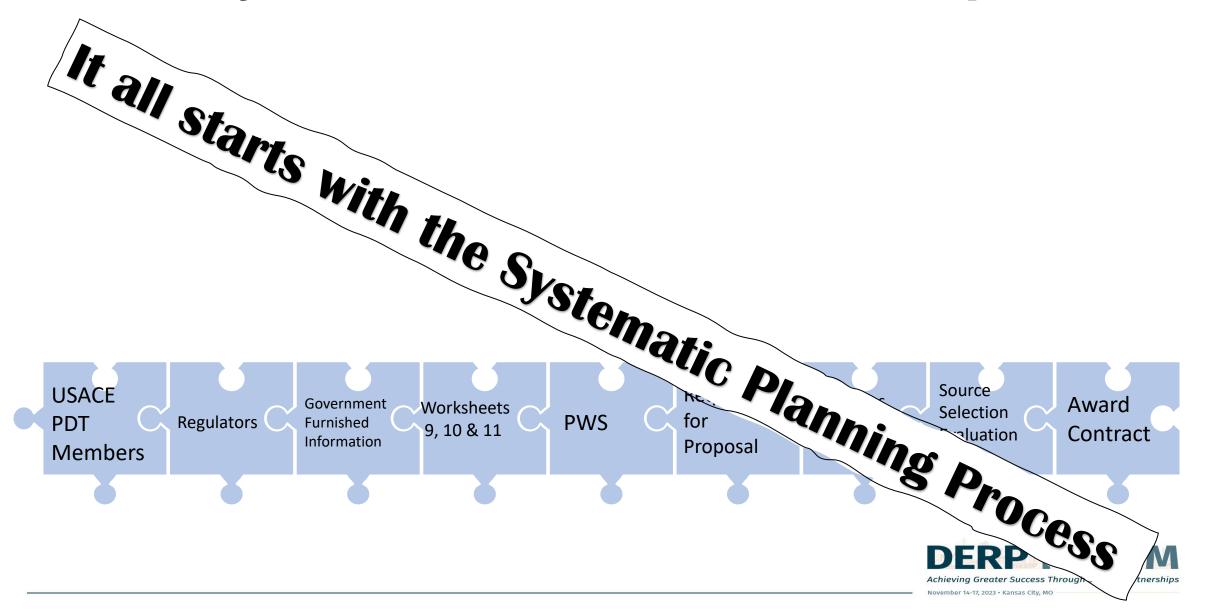
All PDT members are an integral part of the success of the project.





Identify and Prevent the Data Gaps





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 & 2¹¹¹

Planning Session #1 through Final MEC Remedial Action Report

Project Phase		Remedial RFP-Contract Award W		Remedy Implementation		plementation	Final Reporting
Generalized PMP Activity		itic Project Planning	Contract RFP, Evaluation & Award Contract	Project QAPP	RA Fiel	ld Work	RA Report
MR-QAPP Activity	Planning Session #1	Planning Session #2	n/a	Planning Sessions 3&4	Geophysical Mapping & Data Analysis	Source Characterization	Final Data Usability Assessmer
Participants:	LEAD-key; REG	LEAD-key; REG	LEAD-key; KO/OC	LEAD-key; REG; CONTR-key	LEAD-key; CONTR-key; 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 Draft QASP 	 Planning Session 2 outputs Contractor's Proposal 	 Final Project QAPP Final QASP Field Data 	 Project QAPP Geophysical Mapping & Analysis outputs Cued or One-Pass AGC data 	 Outputs from Geophysical Mapping and Analysis, Source Characterization and Target of Interest Investigation
Activities	 Planning Session #1: Define Overall Objectives Other Activities: Initiate Contract/Action Initiate Right-of-Entry actions 	 Ilanning Session #2: Site Visit Determine Data Needs Determine Intended Uses of Data Other activities: EM CX Independent Technical Review of Draft PVS, Evaluation Criteria & Independent Government Estimate 	 Finalize PWS Finalize Evaluation Criteria Issue RFP Site Visit Finalize Independent Government Estimate Conduct Source Selection and Evaluation Board Finalize Rights-of- Entry 	 Site Visit Contracting Officer or COR approves Project QAPP Deliverable Worksheet 1 signed EM CX Independent Technical Review 	 IVS Installation Equipment Assemblies Site Prep Geophysical Mapping Data Analysis & Interpretation QC Activities QA Activities (Field/Data) QA Activities (KO/COR) 	 Anomaly Classification Intrusive Activities QC Activities QA Activities (Field/Data) QA Activities (KO/COR) 	 Final Data Usability Assessment Draft RA Report Assemble Appendices Assemble GIS EM CX Independent Technical Review PDT Meeting(s) to discuss decisions
Outputs	 Worksheet 10 CSM (preliminary) Worksheet 11 DQO Steps #1 & #2 Worksheet 9 updated 	 Worksheet 11 DQO Steps #3 & #4 Worksheet 9 updated Draft PWS Draft Evaluation Criteria Draft Independent Government Estimate Draft QASP 	Contract award	 Final Project QAPP Final QASP Final QA Seed Plan(s) for High Density Area Characterization Major Milestone Complete 	 IVS Technical Memorandum Quality management reports Data Usability Assessment Anomaly Detection Analyses Anomaly Selections Updated CSM QASP Reports Major Milestone Complete 	 IVS Technical Memorandum Quality management reports Data Usability Assessment Classified and ranked source list Anomaly Resolution Report Major Milestone Complete 	 Final RA Report Detailed Site Model

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Note: Red text indicates an activity that includes contracting (KO or COR)

Systematic Planning Process Participants



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Planning Sessio	n #1 through Final MEC Re	medial Action Report						
Project Phase	Remedial Design RFP-Contract Award Work Plan Preparation				Remedy Implementation			Final Reporting
Generalized PMP Activity	Pre-Award Syste	matic Project Planning	Contract RFP, Evaluation & Award Contract	Project QAPP		RA Fiel	ld Work	RA Report
MR-QAPP Activity	Planning Session #1	Planning Session #2	n/a	Planning Sessions 3&4	Geophysical Ma Analy		Source Characterization	Final Data Usability Assessmen
Participants:	LEAD-key; REG	LEAD-key; REG	Participan	ts D-key; REG; ONTR-key	LEAD-key; C CONTR-field; F and other ne	EG (for DUA	LEAD-key; CONTR-key; CONTR-field; REG (for DU and other needed tasks)	
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Lea Group #	nd Agent Key Personnel ⁽³⁾ (LEAD-key)	Contracting/Counsel (KO/OC)	Lead Regulator (REG)	Contractor Key (CONTR			ctor Field Personnel CONTR-field)	Contractor Report Authors (CONTR-rpt.)
Contr Repri- Tech Signa Geop Contr Geop Lead Lead Lead Lead	ect Manager racting Officer esentative nical Manager (if not obysicist) Agent Geophysicist Agent Chemist Agent Risk Assessor Agent OESS Agent EM CX (optional)	Lead Agent Contracting Officer Lead Agent Office of Counsel	Lead Regulator Project Man Supporting staff (as determin by the Lead Regulator PM)		Manager (if not eophysicist hysicist	Contractor QC Contractor Ge Contractor Ge Contractor GI Contractor UX Contractor UX Contractor UX Contractor UX	C Geophysicist ophysicist Processor(s) ophysicist Team Leader(s) ophysicist Team Member(s) S Manager/Member(s) COSO	Contractor Project Manager Contractor Technical Manager (if not Geophysicist) Contractor Project Geophysicis Contractor Project Chemist Contractor Risk Assessor Contractor MEC Operations Specialist

General RD-RA Workflow and Planning



artnership

Project Phase	Remedial Design RFP-Contract Award Work Plan Preparation			Remedy Imp	Final Reporting		
Generalized PMP Activity	Pre-Award Systema	tic Project Planning	Contract RFP, Evaluation & Award Contract	Project QAPP	RA Fiel	d Work	RA Report
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Inputs	• All available data from the RL ES ROD ASR etc. WS #10 and	Planning Session #1 Outputs #11	 Planning Session #2 outputs Draft QASP 	 Planning Session 2 outputs Contractor's Proposal 	 Final Project QAPP Final QASP Field Data 	 Project QAPP Geophysical Mapping & Analysis outputs Cued or One-Pass AGC data 	Outputs from Geophysical Mapping and Analysis, Source Characterization and Target of Interest Investigation
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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

INTERGOVERNMENTAL DATA QUALITY TASK FORCE INTERGOVERNMENTAL DATA QUALITY TASK FORCE **Uniform Federal Policy** For Uniform Federal Policy **Quality Assurance Projec** For Plans **Quality Assurance Project Plans** Munitions Response QAPP Toolkit (UFP-QAPP) Module 1 Remedial Investigation (RI)/Feasibility Study (FS) Munitions Response QAPP Toolkit Update 1, April 2020 Module 2: **Remedial Action** Final, March 2023

MR-QAPP Module 1: RI/FS Revision Number: Update 1 Revision Date: April 2020

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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!

Site Details	Potential/Suspected Location and Distribution of MEC	Known/ Suspected Munitions	Exposure Medium	Current and Future Receptors	Exposure Pathways
Camp Example, MRS A Boundaries and acreage: See Figure 10-2 Background anomaly density (estimated): 75/acre Known/suspected past DoD activities	High-use areas (HUA): -Evidence of munitions handling or use (e.g., target areas) -High likelihood of finding residual MEC, MD, or range-related debris (RRD) -Anomaly density ≥	-Bomb, HE, M30A1 -Bomb, practice, 100-lb, M38A2 -nose fuze, AN-M103 Series -tail fuze, AN-M100 Series M1A1 spotting charges for 100-lb practice	Surface soil and subsurface soil	Ranchers Farmers Hunters Hikers Campers Residents U.S. Forestry Service	HUA: Potentially complete exposure to surface and/or subsurface MEC
(release mechanisms): <u>Bombing Target #1</u> : Proposed, but no-evidence-of-use <u>Bombing Target #2</u> : 100-lb practice bombs <u>Bombing Target #3</u> : Proposed but no- evidence-of-use	critical density Low-use areas (LUA): -Low likelihood of finding residual MEC, MD, or RRD -Anomaly density < critical density	bombs			LUA: Potentially complete exposure to surface and/or subsurface MEC
Present	t Dav	listorical Combat Firing Range	- and a start		Finng Points
Presen Florida National					Filing Points



Facility, Physical, Release, & Land Use & **Exposure Profiles:** Consider how these elements relate to the phase.

Facility Profile	Physical Profile	
 Site location, size and ownership Identification of munitions and hazardous substances known or suspected to be present Concise summary of relevant findings from previous investigations 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 	- Loc distri and l subs - - - - - The addr selec
	Investigation	ships



Facility Profile	Physical Profile	Release Profile	L Ex
 Site location, size and ownership Identification of munitions and hazardous substances known or suspected to be present Concise summary of relevant findings from previous investigations 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 	- Curr anticip - Nei - Cur rea anti rec exp - Acce - Te - L
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Physical Profile	Release Profile	Land Use and Exposure Profile
 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 	 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?
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WS #10: CSM – Elements Land Use and

Release Profile

distribution of munitions

- Horizontal AND vertical

- Affected environmental

- Anomaly densities?

- Location and

and hazardous

substances

media

- The areas being

addressed by the

selected remedy

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?







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?



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 <u>WHEN THE PROJECT IS</u> <u>DONE</u>

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

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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

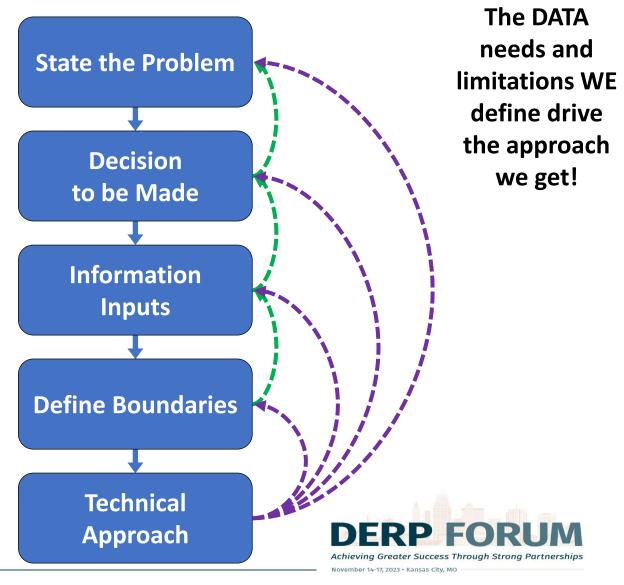
What are the limits on data collection?

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?



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







Other SPP Discussions Prior to Solicitation



Anomaly detection/classification issues

Anomaly density estimates

Anomaly reduction (saturated areas)

Production rates

Depth of classification considerations

Coverage exclusions (ROD/ROE or other)

Specific technology limitations or expectations

Did government (ROD) say analog anywhere?

Does an Item of Concern (IOC) require unique approaches?

Explosives safety considerations Biological and Cultural Resource Considerations

Pre-solicitation, determine biological and cultural resource needs

Include in planning and in PWS

Draft Quality Assurance Surveillance Plan (QASP)

Required for service contracts

Alerts contractor who is doing what and when

Should really reference project

QAPP in many places

Lessons learned

When you're buying a car, do you...

Just ask the salesman for "a car"? <u>**OR**</u> 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 Worksheets9 - 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 '

Ensure PWS & QAPP WS#^c

Use the ROD Conduct pre-proposal sit

Pre-RFP and pre-award

Discuss and document the

Anomaly density estimates an Depth of classification considerand Access limitations Coverage exclusions Specific technology expectations Explosives safety considerations Biological and Cultural Resources

Draft QASP

Use the Project Management Plan (PM)

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."

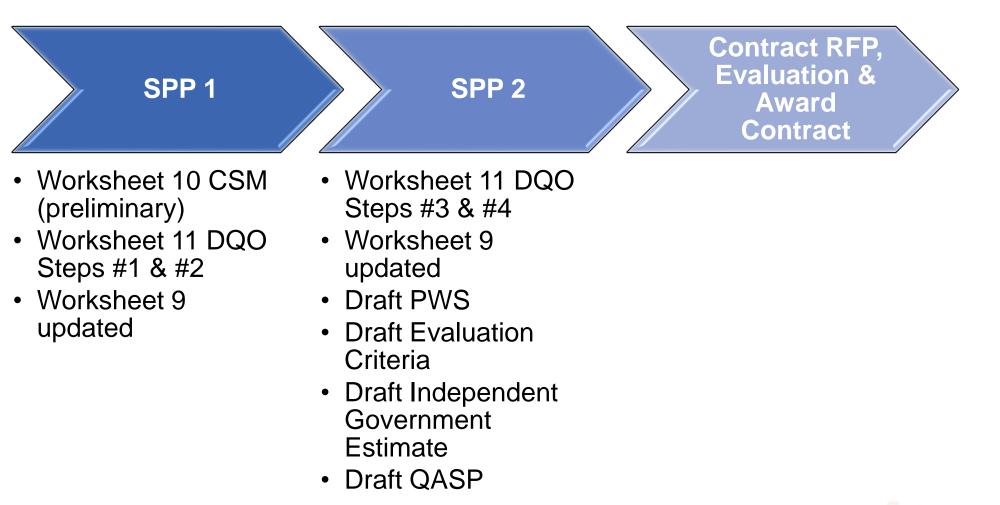
e QAPP







SPP 1 & 2 feeds into The RFP & Evaluation







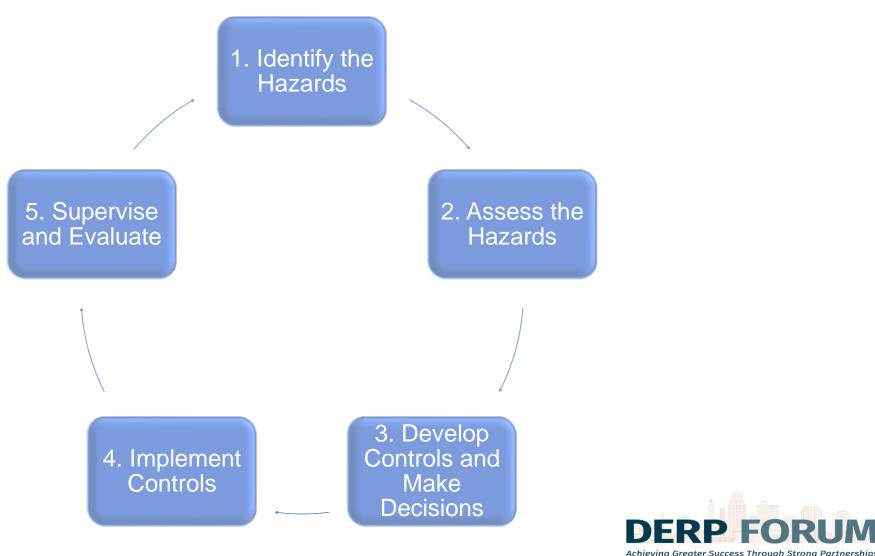
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It's a package deal

1.0 OBJEC The overal acceptance Compensat Regulation Munitions 2.0 BACK Evaluation Rating Evaluation Rating Evaluation Rating Evaluation Rating Evaluation Rating Evaluation Rating RFP No Evaluation Name: Evaluation Rating Evaluation Rating Evaluation Rating Evaluation Rating Evaluation Regulation Name: Evaluation Rating Evaluation Rating RFP No Evaluation Regulation Name: Evaluation Rating RFP No Evaluation Regulation Regulatio Regulati Regulati Regulati Regulatio Regulatio Regulati Regu	tor's DESCRIPTIC CHEMICAL, ENVIRONMENTAL A MULTIPLE AWAR tion AT SITES IN CON	DEC	MR-QAPP Module 1: RI/FS Revision Number: Final Revision Date: December 2018 INTERGOVERNMENTAL DATA QUALITY TASK FORCE
2.1 Work u (MMRP) fr The Contra CFR Part 3 full compliTechnical Approa enclosed PWS. The used to accomplish conci perfo shoul will aFactor (Plac Col2.2 Availab via eit not linused to accomplish conci perfo shoul will aRating 	Rating: 03 s e X in 1.0 OBJECTIVE. 1.1 The objective of this Chemical, Enviro (ChEM-RU) Multiple Award Task Order of Contractor conventio Remedial enable la: Image: Conventio Remedial enable la: 000531: 1.2 This (Alaska at FAR 2.101. The services provided under th Department of Defense Commands and In 1.3 The Contractor shall safely locate; ider manage; and make final disposition, as req (MEC), CWM and Hazardous, Toxic and formerly used defense sites, property adjo federally controlled/owned sites. Work pe planning; assessments; inspections; survey prioritization; cost analyses; remedial or revaluation of risks and hazards to human h and filtration; recovery; storage; transport investigation derived waste (IDW), MEC, monitoring, data management; training; pe and security support. In addition, for OM construction support and range clearance	Gove Fur Info	<text><text></text></text>
	2.1 The Contractor shall perform Environ		



Risk management process





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

