



DEPARTMENT OF THE ARMY  
CORPS OF ENGINEERS  
441 G STREET NW  
WASHINGTON, D.C. 20314-1000

CEMP/CECW (2020-04)

06 May 2020

DIRECTOR'S POLICY MEMORANDUM FY2020

SUBJECT: Risk-Informed Decision Making (RIDM) for Program and Project Delivery

1. References.

a. Office of Management and Budget Circular No. A-123, Management's Responsibility for Enterprise Risk Management and Internal Control, 2016.

<https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/memoranda/2016/m-16-17.pdf>.

b. International Organization for Standardization (ISO) 31000:2018(en), Risk Management: Guidelines, 2018. <https://www.iso.org/iso-31000-risk-management.html>.

2. Purpose. This memorandum directs the application of RIDM principles and practices at every echelon of the organization to advance Military Programs and Civil Works program and project delivery outcomes and the U.S. Army Corps of Engineers (USACE) progress toward becoming an Enterprise Risk Management (ERM) organization.

3. Applicability. The following policy is applicable to all elements vertically and horizontally across the organization that directly support and enable the delivery of all USACE programs and projects.

4. Background.

a. USACE has long been a risk management organization, addressing uncertainty and managing risk by various methodologies at all echelons of the organization. Consistent across USACE's broad portfolio of mission areas is the requirement to regularly execute programs and projects where risk is an inherent factor in business decisions. Assessing and communicating risks to establish effective courses of action and shared expectations for likely outcomes, both internal and external to USACE, is an essential element of good business practice.

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b. While risk is an inherent element of our work, the approach with which risk is considered, treated, communicated, and documented varies widely. As we look to posture ourselves to meet the needs of our stakeholders and Nation in a rapidly changing and complex operational environment, it is imperative that the enterprise adopt a consistent and principle-based approach to risk management. This will ensure that professionals and leaders within USACE are confident and comfortable to act expeditiously with good effect in a risk-informed environment.

c. The Chief of Engineers has charged USACE to advance the practice of RIDM by establishing standardized risk management practices that are relevant and applicable to delivery of missions across all echelons of the organization. The objectives of RIDM are to advance program and project delivery and optimize the value USACE provides to the Nation.

5. Records Management (Recordkeeping) Requirements. Records management requirements for all record numbers, associated forms and reports required by this regulation are included in the Army's Records Retention Schedule: Army. Detailed information for all record numbers, forms, and reports associated with this regulation are located in the Army's Records Retention Schedule: Army at <https://www.arims.army.mil/arims/default.aspx>.

6. Discussion. The following actions will be implemented immediately.

a. Action: Adopt and promote the use of USACE Operating and ERM principles vertically and horizontally across the organization.

(1) USACE Operating Principles:

(a) Support the mission and vision of USACE;

(b) Promote the accountability and integrity of USACE work;

(c) Contribute to the USACE standards of ethical practice, professional judgment and practice, and environmental operating principles;

(d) Enable and empower the workforce;

(e) Comply with applicable laws, regulations and policies.

(2) USACE ERM Principles:

(a) Use a common approach to managing lifecycle risks;

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- (b) Integrate risk management practices vertically and horizontally to create an environment for expeditious, productive, and sound decision making;
- (c) Inform strategic planning and decision making;
- (d) Ensure the flow of lifecycle risk information to decision makers;
- (e) Seek and include diverse viewpoints while driving toward decision;
- (f) Establish and use risk monitoring systems and escalation policies;
- (g) Identify, prioritize, and proactively manage lifecycle risks;
- (h) Identify where the potential exists to realize positive outcomes and the risks associated with pursuing them;
- (i) Inform budget decisions and performance management;
- (j) Acknowledge that uncertainty is inherent in decision making.

b. Action: Implement the USACE RIDM Model to enable program and project delivery.

(1) The USACE RIDM Model, adapted from ISO 31000:2018(E), Risk Management: Guidelines, provides a generic approach to addressing and managing any type of uncertainty or risk respectively which has the potential to impact (positive or negative) the achievement of desired objectives. Depicted in Figure 1, the RIDM Model should be applied across the project delivery lifecycle to facilitate proactive risk management practices and enable sound judgment on key program and/or project decisions where the uncertainties or consequences may result in unacceptable outcomes.

(2) The level of detail and formality associated with each step will be influenced by factors such as program, project, or decision complexity; available resources; and the extent of impact to program or project outcomes. Enclosure 2 includes a more detailed description of how the RIDM Model applies to project delivery.

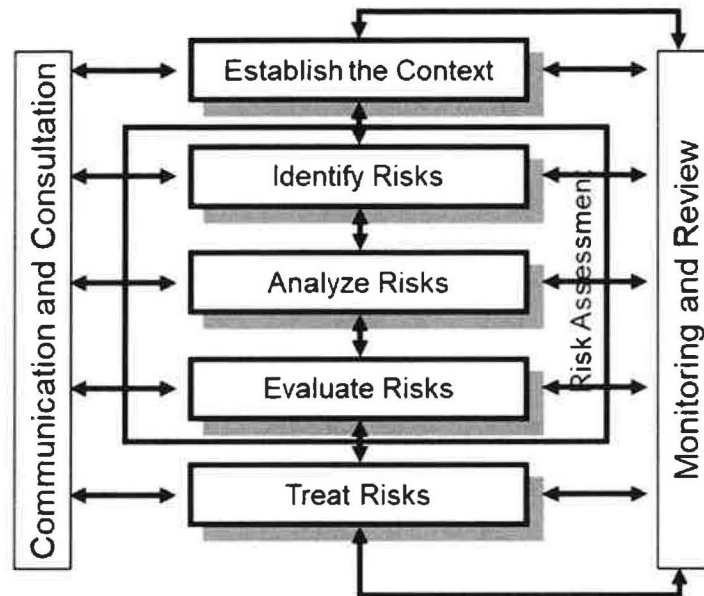


Figure 1. USACE RIDM Model (Adapted from ISO 31000:2018)

c. Action: Clarify organizational roles and responsibilities for RIDM associated with program and project delivery.

(1) RIDM roles and responsibilities can be derived from the three interconnected tasks comprising the system of risk analysis as depicted in Figure 2. These tasks, defined further in Enclosure 3, include risk assessment, risk management, and risk communication.

(2) Whether a Project Manager, Technical Lead, Planner, Construction Management professional, contracting representative, Senior Executive Service member, or Commander, each has a role in contributing to the assessment and management of risk and their continuous communication and documentation in the delivery of programs and projects. A more detailed explanation of RIDM roles and responsibilities is presented in Enclosure 3.

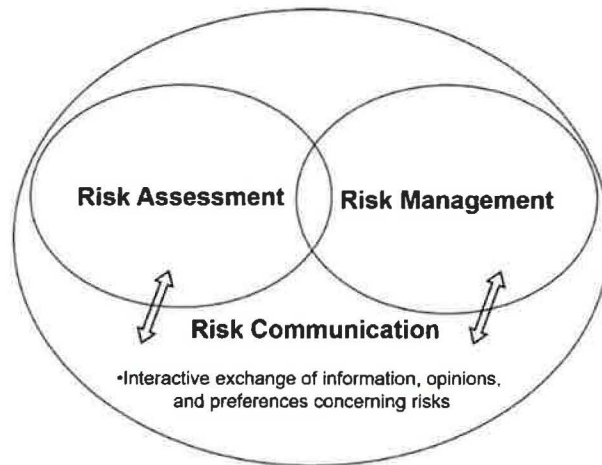


Figure 2. Risk Analysis Diagram

d. Action: Adopt and institutionalize standard risk terminology. Clear communication of risks is critical. To be effective, USACE must adopt and employ a standard lexicon of risk terminology that establishes a common understanding of risk. This will enhance our ability to collectively manage risk and incorporate risk management principles and standards into our business practices. To meet this need, USACE has adopted, adapted, and added to the terms in the ISO/Guide 73:2009(en) Risk Management: Vocabulary to fit with USACE's mission. A detailed list of these terms and their definitions is provided in Enclosure 4.

e. Action: Integrate risk management behaviors into existing governance, management, systems, and production processes.

(1) Focus Project Delivery Team (PDT), milestone, and program review meetings on the decisions needed to achieve defined program and/or project delivery objectives and high-value or instrumental risks that could affect outcomes.

(2) Track the status of high-value or instrumental risk (defined in Enclosure 4) and uncertainty impacts at regularly scheduled meetings including Project Review Boards, Command Management and Directorate Management Reviews, and functional area and organizational governance meetings.

(3) Ensure routine risks are addressed and incorporated into new and existing quality management processes/systems.

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f. Action: Use existing risk management tools and resources.

(1) The USACE Risk Gateway and Learning Center will be used to advance organizational awareness and intelligence in managing risk. The current gateway is located at the following link: <https://www.iwr.usace.army.mil/Missions/Risk-Analysis/Risk-Analysis-Gateway/>.

(2) This site will be further enhanced to serve all aspects of Military and Civil Works as the USACE Risk Toolbox, which will include usage and further adaptations to currently available lifecycle risk register tools, templates, and instructions.

g. Action: USACE decision makers demonstrate leadership on advancing RIDM.

(1) Decision makers including, but not limited to, senior military and civilian leaders at every echelon of the organization must demonstrate leadership on advancing RIDM by shaping governance forums (e.g., Project and Program Review Boards, Command Management, Directors, and functional area Management Reviews, Executive Governance Meetings, Regional Command Council and Management Boards) to encourage robust dialogue that promotes effective ERM practices.

(2) The following questions should be considered as a means to promote a robust risk-informed dialogue:

(a) Are we taking and accepting the right risks (i.e., risks that create value)?

(b) Are we taking and accepting the right amount of risk, and more importantly, are we getting the appropriate return for the risk we have taken on?

(c) Do we understand the key uncertainties about the information we are using to support our decisions?

(d) What risks have we identified, and how are we addressing them (Avoid/Transfer/Mitigate or Exploit/Share/Enhance)?

(e) How are we documenting and communicating our risk decisions?

(f) What can/did go wrong and what can/could have gone better?

(g) How does/did it happen?

(h) How likely is it?

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- (i) What are the consequences?
  - (j) How did the understanding of risk change through the life of the project, and how did that change, if at all, the decisions that were made?
- h. Action: Enable and empower decision making at the lowest appropriate level.
- (1) Functional communities of practice are responsible for incorporating risk principles, terminology, and the RIDM process into any new or existing functional doctrine, guidance, quality processes/systems, and training.
    - (a) It is highly encouraged to leverage existing risk subject matter experts, including those with formal risk management training and certifications, as consultants.
    - (b) Major Subordinate Commands (MSC)s, Districts, Centers, and functional communities of practice will support individual development opportunities for advanced training in risk analysis, such as the USACE—Notre Dame of Maryland University Cohort Risk Certificate and Master’s degree programs, the Project Management Institute training and process for certification as a Risk Management Professional, or other higher-level education programs that promote effective enterprise and/or functional area risk management practices.
    - (c) Instill the ethic that everyone in the organization matters and shares responsibility and accountability for achieving the objectives of their position and the teams they contribute to.
  - (2) Operating within USACE’s designated or assigned authorities, empower decision making at the lowest appropriate level by encouraging prudent risk management behaviors predicated on sound principles, strong internal/external collaboration, and prompt upward communications to those within and outside USACE who are ultimately accountable for the outcomes. In addition, implement internal controls to understand the impact of these decisions at the enterprise level (see Enclosure 2, Figure 3, Hierarchy of Authorities, Roles, and Responsibilities).
    - (a) Those with assumed or delegated authority will be empowered to exercise their professional judgment in taking appropriate risks required to carry out their role in the delivery of programs and projects.
    - (b) Professional practice, ethical standards, and legal considerations, including statutory and regulatory compliance, are key elements of risk management and precedent-setting courses of action. USACE functional leaders and Counsel will be proactive in advising on risks, with the Chief Counsel, functional and programs leaders, and Command

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leadership having the ultimate responsibility for decisions of strategy or in unprecedented matters.

i. Action: Drive toward consensus on an ERM framework. Although these actions do not fully implement an ERM framework at USACE, they do enhance RIDM and move toward full ERM implementation. The following actions will further help to integrate risk management behaviors across all missions, programs, and echelons within USACE and provide a strong foundation for future ERM efforts:

(1) Collect and incorporate After-Action Review and Lessons Learned feedback from across the enterprise and integrate into a follow-on ERM Engineer Regulation.

(2) Update USACE strategic documents and initiatives (e.g., USACE Campaign Plan, USACE Civil Works Strategy, and MSC I-Plans) guided by the adopted risk principles and standards. Refine goals, actions, and measures accordingly.

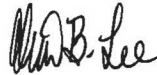
(3) Complete the USACE Civil Works Strategic Asset Management Plan, aligned with ISO 55000 principles, as called for in the Director's Policy Memorandum 2019-04.

7. Proponent. The point of contact for this memorandum is listed in Enclosure 1.

FOR THE COMMANDER:



Lloyd C. Caldwell, P.E., SES  
Director of Military Programs



Alvin B. Lee, SES  
Director of Civil Works

Encls:

1. Proponent name and contact information
2. Risk-informed decision-making process
3. RIDM roles and responsibilities
4. Risk terminology

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Enclosure 1

Proponent Name and Contact Information

1. Proponent Name and Contact Information. The USACE Headquarters proponents for this memorandum are Michael Voich, Corps of Engineers Civil Works, (202) 761-4820 and Sheryl Gatz, Corps of Engineers Military Programs, (202) 761-5750.

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Enclosure 2

Risk-Informed Decision-Making Process

1. Balancing Empowerment with Alignment and Accountability.

a. USACE’s ability to operate originates from the authorities, roles, and responsibilities assigned to the Chief of Engineers in his capacity both as the senior Army staff engineer advisor and as Commander, USACE. Accountability ultimately resides with the Commanding General and designated USACE Headquarters executives.

b. Prudent delegation of decision-making authority depends upon enterprise-wide alignment of objectives, responsibilities, and accountability. It also depends upon maintaining situational awareness, feedback mechanisms, and transparent communication of internal and external engagements vertically and horizontally across the organization to those ultimately accountable for the outcome. Figure 3 shows that as decision-making authorities are directed downward in the organization, accountability and alignment must percolate upward. This principle enables and empowers prompt decision making at the lowest level appropriate in a dynamic environment.

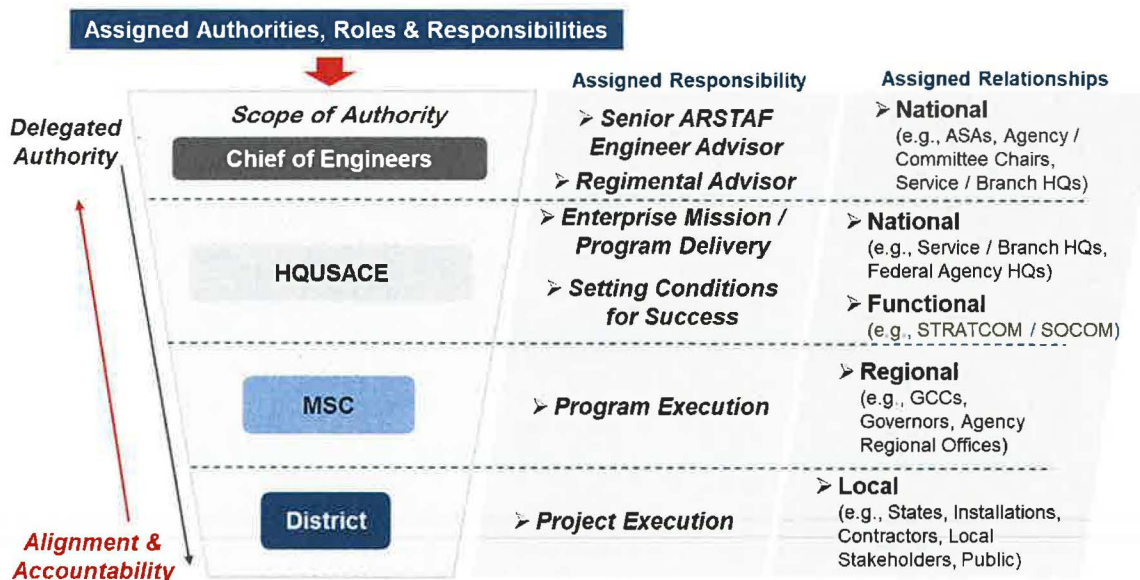


Figure 3. Hierarchy of Authorities, Roles, and Responsibilities

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2. Implementing the RIDM Model Process.

a. The USACE RIDM Model process (see Figure 1) is adapted from the ISO 31000 Risk Management standard, which provides a generic approach to managing any type of risk and is not industry or sector specific. The process aligns with the three interrelated elements of the Risk Analysis Diagram (see Figure 2) which include risk assessment, risk management, and risk communication. Some of the steps align with risk assessment, which comprises activities associated with evidence-based objective analysis. Others align with risk management, which comprises activities associated with integrating values-based reasoning to support decision making.

b. Key to the effectiveness of the RIDM Model is the ability to synthesize elements of risk assessment and risk management to generate a comprehensive conclusion about risk that is complete, informative, and useful for decision makers.

(1) Risk analysis is the overarching means by which we assess uncertainty by intentionally characterizing risks and uncertainties to inform decisions whenever unacceptable outcomes may occur.

(2) Risk communication ties together all facets of risk analysis and centers on an open, two-way exchange of information and opinions about risk. This is designed to lead to a common understanding, shared expectations, and informed risk management decisions.

c. The USACE RIDM Model establishes a disciplined process by which risks and uncertainties are identified, assessed, communicated, and managed to accomplish specified objectives. Initial application of the RIDM Model will focus on advancing program and project delivery performance objectives. As such, the RIDM Model should be applied to all project delivery activities across the lifecycle as appropriate. Activities can range from discrete decisions to the accomplishment of specific tasks, products, and project phases to project completion.

d. This approach will instill consistency and continuity in managing risk from planning and programming through design, construction, and either transfer or follow-on operations, maintenance, and sustainment.

e. Below are the five key steps of the RIDM Model Process. Steps 2, 3, and 4 align with the risk assessment task as detailed in the Risk Analysis Diagram shown in Figure 2 and defined in Enclosure 4. Throughout these three steps, the risk assessors are bound to objective analysis of the best available evidence and facts. Steps 1 and 5 align with the risk management task.

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(1) Step 1—Establish the Context: The goal of establishing the context is to define the problem; to identify the goals, objectives, strategies, and scope of a decision, activity, phase, project, or program to be assessed; and to establish the areas of uncertainty and the criteria for making decisions. This information is helpful in establishing measurable performance goals and objectives to a level of detail appropriate to size, complexity, and importance of the subject to be addressed.

(a) Categories of USACE performance objectives typically include, but are not limited to safety, quality, schedule, and cost, with corresponding metrics to differentiate between unacceptable and acceptable outcomes such as the number of accidents, product/project performance, scope achieved, and variance in projected days and dollars.

(b) Key to this step is identifying internal and external stakeholders and their interests.

(2) Step 2—Identify Risks: This step seeks to answer two key questions related to achieving established performance objectives. These questions are: What can go wrong? How can it happen? Asking and answering these two questions will generate an initial inventory of inherent risks and areas of uncertainty, which produces a qualitative characterization of each identified risk as acceptable or not, and it identifies areas of high value or instrumental uncertainty.

(3) Step 3—Analyze Risks:

(a) This step comprises the most concerted effort to characterize the areas of uncertainty that challenge the objectives-focused decision-making process. Most of the risk assessment process is completed in this step by asking and answering two more questions for each inherent risk identified. These questions are: What are the consequences of the risk if it occurs? What is the likelihood the risk will occur? The consequence and likelihood for each risk, taking into account factors related to confidence levels and uncertainty, may be combined to produce an estimated level of risk.

(b) This estimation of risk may be qualitative or quantitative depending on the nature of program, project, or risk decision being considered. Alternative mitigation strategies (ways to reduce or limit risk) are analyzed at this point.

(4) Step 4—Evaluate Risks: The assessed risks are considered and categorized as acceptable or not and then prioritized. Risk management options are formulated for risks and uncertainties that are deemed unacceptable. The risks are then reassessed assuming a treatment is in place to determine if the residual risk and uncertainty is acceptable or not.

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Risk management options that result in acceptable or tolerable levels of risk may be considered viable risk treatment options for implementation.

(5) Step 5—Risk Treatment: Risk managers are responsible for selecting among risk management options to treat risks that are deemed unacceptable. This must be accomplished in consultation with the risk assessors. Risk estimates should not serve as the sole basis for risk manager decisions, but considered as an important factor in RIDM. Key outputs of this step include determination of a tolerable level of risk, the best risk management option, measurable desired outcomes to monitor the option's success, and an implementation plan.

f. To be effective, the five-step RIDM Model process must be executed in concert with the following complementary activities:

(1) Communication and Consultation:

(a) Communication and consultation among all key stakeholders which may include PDT members, Congress, the public, internal and/or external technical experts, higher headquarters, and other interested parties must occur and be appropriately documented throughout the RIDM Model process to optimize outcomes and support informed decisions that accomplish the objectives established in Step 1.

(b) Active and transparent communications are critical to producing accurate risk assessments and to ensure an appropriate balancing of competing interests in order to make risk management decisions that lead to desired outcomes.

(2) Monitoring and Review: It is important to monitor and evaluate results and modify approaches in response to what is learned. A monitoring plan should be developed to ensure that desired risk outcomes are being realized. Reporting and adaptive management decisions should be made as appropriate to address variances in mitigation outcomes and changes in influencing factors. Monitoring and review is the responsibility of risk managers and should be conducted in consultation with risk assessors.

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Enclosure 3

RIDM Roles and Responsibilities

1. Defining RIDM Roles and Responsibilities for Program and Project Delivery. RIDM roles and responsibilities within the context of the lifecycle Project Delivery Business process can be defined as follows:

a. PDT: A PDT comprises key external stakeholders and multi-disciplinary subject matter experts within USACE assigned to perform designated functions needed to successfully develop and execute a project across the delivery lifecycle. Each PDT is led by a Project Manager (PM), or Operations Project Manager (OPM) in the case of operating projects, who is responsible for ensuring necessary disciplines and perspectives are represented within the PDT in addition to overall integration and coordination of functional input. All PDT members are de-facto risk assessors for their respective area of expertise and/or responsibility, including making individual contributions to the PDT's efforts to assess and prioritize overall project risks.

(1) Each PDT member is bound by objective evidence-based analyses, modeling, and procedures to deliver the array of scientific, engineering, economics, operational, sustainment/maintenance, and other related technical products and services to the standards of their respective professions.

(2) It is the responsibility of every member of the PDT to participate in the identification, assessment, and evaluation of risks (Steps 2, 3, and 4 of the RIDM process). This includes documenting and communicating risks, implementing decisions and actions in the Project Management Plan, and serving as risk owners within their respective areas by maintaining responsibility for monitoring and reporting status with the collective PDT and the PM/OPM.

(3) Two-way communication of risks (including among peers on the PD and counterparts on the District Quality Control (DQC), Agency Technical Review (ATR), and Project Risk Management Teams, supervisors, and others with ultimate decision-making authority) are key to effective risk assessment.

(4) The makeup of the PDT changes over the life of a project to match the requirements of each phase of project delivery: planning, design, construction, transfer, and operations and maintenance. As such, the communication across phases of delivery requires documentation in the living Project Management Plan (e.g., risk register and compiled set of Risk Analysis Sheets), and when feasible, updates through meetings with outgoing and incoming PDT members to convey the status of instrumental risks and uncertainties remaining upon completion of one phase and the start of the next phase.

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b. DQC and ATR Teams:

(1) The DQC and ATR Teams complement the PDT, independently checking factual evidence, key assumptions, and the application of models and analyses used to produce draft products. DQC Team members work in tandem with counterparts on the PDT, checking each element of work as it is accomplished.

(2) ATR Team members are independent of production, and their input to the PDT occurs at in-progress reviews, milestone meetings, and draft product review comments. Early dialogue among PDT members and their counterparts on the DQC and ATR Teams, via ATR Team Leader, (including on key topics of uncertainty, critical variables and assumptions in models, and analyses prior to production) helps to identify risks early, and enables proactive risk management actions to ensure delivery of project objectives.

c. PM and Functional Leads: The PM/OPM and respective Functional Leads that comprise or support the PDT are jointly responsible for ensuring the implementation of the RIDM process.

(1) Documentation of the RIDM process is required and may be achieved by using the Risk Management Appendix of the Project Management Plan containing (or providing a readily accessible hyperlink to) an up-to-date Project Risk Register or other approved District format for documenting RIDM throughout the project delivery lifecycle.

(2) The RIDM process should be conducted through open dialogue and collaboration across all PDT members, including external stakeholders, to inform decisions through each phase of project delivery.

(3) Designated USACE Automated Information Systems including, but not limited to, the Project Management Information System and Resident Management System will be used and updated appropriately as a means of monitoring and reporting overall project risks and project status up the vertical chain. Communication of project status and risks should occur during routine governance meetings.

d. Core Project Risk Management Team:

(1) The PM/OPM, technical lead, Administrative Contracting Officer, stakeholder and senior District civilian for program management typically form the core project Risk Management Team in a District, responsible for nearly all ongoing project delivery decisions.

(2) The Core Project Risk Management Team develops and communicates project and phase-specific objectives, constraints, and associated risk appetite to guide the PDT. Transparent dialogue among the Core Project Risk Management Team is crucial to early identification and assessment of high-value or instrumental risks and to discern and make project

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delivery decisions where the lines between acceptable, tolerable, and unacceptable risk are uncertain.

e. **Functional Area Chiefs:** Branch and Section Chiefs are resource providers, responsible for assigning their staff members to individual PDTs, ensuring DQC for products under their purview, and evaluating individual performance. District Chiefs work with their counterparts at the MSC to plan and supply Human Resources equipment and supplies, and ensure procedural controls are in place to control delivery of incremental products and services needed to complete projects and accomplish program objectives across the MSC.

f. **Senior Risk Management Team:** The Senior Risk Management Team in a District comprises resource providers at the Section, Branch, and Division Chief levels.

(1) A monthly Project Review Board will be held to monitor data and status of delivery of programs and projects, facilitate incremental project- and program-level decisions, and adjust resource applications as needed to advance project delivery.

(2) The Senior Risk Management Team will support District Commanders, District civilians for program management, and other senior functional Chiefs in making and carrying out decisions integral to achieving both district program and project delivery objectives and strategic goals established by the District Commanders. Strategic goals and objectives should be aligned with MSC Implementation Plans, the USACE Campaign Plan, and USACE Mission and Vision statements.

g. **Division Risk Management Team:** The Division Risk Management Team is responsible for exercising risk management principles and practices in the execution of regional governance forums including the Regional Command Council, Regional Management Board, Project Management Review, Regional Acquisition Board, and the Regional Program and Budget Advisory Committee.

h. **Centers of Expertise, Design, and Production and Communities of Practice:** USACE has established Centers of Expertise, Design, and Production Centers and broader communities of practice to advance technical excellence. USACE Centers of Expertise often serve as the Review Management Organization because each has requisite technical expertise and provides repositories of knowledge, lessons learned, and best practices readily available and accessible to consult and support individuals and PDTs.

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Enclosure 4

Risk Terminology

1. Risk Terminology as Adapted from ISO 31000:2018 Risk Management: Guidelines and ISO/Guide 73:2009(en) Risk Management: Vocabulary. Each organizational element within USACE will ensure that all communications (including but not limited to guidance, directives, presentations, PDT documents, training products, and memorandums) appropriately and consistently use this terminology in communicating risk and uncertainty.

a. ERM: Procedure whereby risk is assessed to assist in making strategic, operational, and tactical decisions. ERM involves all members of the organization across all functions and mission areas, from top leadership through those executing projects and programs.

b. Inherent Risk: Level of risk that exists before any additional action has been taken to manage.

c. Instrumental Risk: Risk that could affect the kind of decision that is made or the outcome of a decision once it is made; instrumental risk is a subset of relevant risk.

d. Instrumental Uncertainty: Uncertainty that could affect the kind of decision that is made or the outcome of a decision once it is made.

e. Knowledge Uncertainty: Lack of knowledge (or confidence) regarding the true value of a quantity. Knowledge uncertainty is a by-product of analysts' necessary reliance on limited data and models (epistemic uncertainty).

f. Natural Variability: Heterogeneity of values within a population, i.e., the inherent randomness of natural or social systems (aleatory uncertainty).

g. Residual Risk: Level of risk remaining from an inherent risk after treatment action has been taken to avoid, transfer, mitigate, or retain the inherent risk.

h. Relevant Risk: Risk that is a proximate factor to a decision or that warrants attention or consideration by decision makers or stakeholders.

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i. Risk: The effect of uncertainty on objectives represented by a measure of the probability and consequence of uncertain future events and their outcomes. Outcomes can be negative or undesirable, such as losses or potential gains that are not realized. Examples of negative or undesirable outcomes include property damage, cost overruns, schedule slippage, failure of components, loss of life, or premature need for rehabilitation or replacement. Outcomes can also be beneficial or desirable, such as time or cost savings, increased public trust, enhanced service delivery, or higher quality products. Risk can be further thought of as inherent, residual, relevant, or instrumental.

j. Risk Assessment: Systematic, evidence-based approach for describing the nature of the risk, including the severity of the risk's consequences and the risk's likelihood of occurrence. Risk assessments can be qualitative, quantitative, or a blend of qualitative and quantitative methods (semi-quantitative).

k. Risk Communication: Open exchange of information among risk assessors, risk managers, those who will use the risk assessment results, and those who are affected by the risks and risk management activities. Risk communication is a critical component of an effective RIDM process; risk communication must begin early and continue throughout the entire process. Risk communication does not require consensus or agreement among all parties to the risk. It should, however, provide meaningful opportunities for input and feedback related to decisions.

l. Risk Guideline: Amount of risk USACE is willing to accept on a broad level in pursuit of its strategic objectives, given consideration of the costs and benefits of the risks and actions taken to mitigate them. Risk guideline is a key concept for guiding USACE risk management decisions at the enterprise, mission, program, and project levels. Risk guideline is scaled to the appropriate level of risk management. The enterprise-level risk guideline is established at the highest level of USACE management.

m. RIDM Process: This describes the manner by which risks are to be assessed, managed, and communicated throughout the USACE. The three tasks of risk assessment, risk management, and risk communication comprise the basis for RIDM. RIDM uses qualitative or quantitative risk assessment information in conjunction with other considerations to lead to more complete, transparent, and informed decisions. The RIDM process comprises five steps and two ongoing processes.

n. Risk Management: The process of analyzing, selecting, implementing, and evaluating actions to reduce risk. The USACE risk management process is embodied in RIDM. Risk management includes establishing the context, risk identification, risk analysis, risk evaluation, and risk treatment in conjunction with appropriate communication, consultation, monitoring, and reviewing the efficacy of decision-making process outcomes.

o. Risk Managers.

(1) Risk managers are not specified by a designated position but are those individuals who own the responsibility for an identified risk. All risk managers have the responsibility and accountability to make decisions with the best available information while recognizing, acknowledging, and considering uncertainties. In addition, risk managers have a responsibility for implementing the RIDM process, adhering to USACE risk guidelines, and coordinating across mission areas where necessary, particularly where risk is being transferred or retained. Risk managers are also responsible for communicating risks and elevating risk management decisions within the organization when appropriate.

(2) Risk managers may be selected to be in authoritative positions based on education, expertise, experience, certification, training, or professional registration. Risk managers should, when possible, be those closest to the identified risk. Risk managers should be assigned within the Risk Management Plan for the identified risks. Division and District Commanders are accountable for ensuring the risks that arise in their areas of responsibility are properly assessed, managed, and communicated. As such, Division and District Commanders provide a critical line of risk management decision making for USACE.

p. Risk Mitigation: The process of developing options and actions to enhance opportunities and reduce threats and lessen the consequences of a risk. This includes risk prevention, risk avoidance, risk retention, or risk sharing.

q. Risk Profile: Objective representation of an organization's overall exposure to a specific group of risks at a given point in time. At a minimum, it is a description of a set of risks of concern to an organization. Its purpose is to provide an objective understanding of an organization's enterprise level risks.

r. Risk Tolerance: Variance from the risk guideline performance relative to the achievement of objectives that is tolerated after mitigation, generally because it is not possible to reduce the risk further, or because the costs of doing so are considered excessive, or the benefits accruing to the remaining risk are too great to reduce the remaining risk further. Mitigation of risks where there is an exceedance of tolerance is strongly encouraged whenever possible. It is set to define the upper and lower limits on risk that will initiate a response to return the risk to a level within the risk guideline.

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s. Risk Treatment: The process of executing and implementing the risk mitigation option(s). This would include risk prevention, risk avoidance, risk retention, or risk sharing.

t. Uncertainty: The result of imperfect knowledge concerning the present or future state of a system, event, situation, or sub-population. The causes of uncertainty are often separated into knowledge uncertainty and natural variability. Either knowledge uncertainty or natural variability may be considered instrumental uncertainty by the risk manager.