RISK MANAGEMENT PLAN

OKLAHOMA

DEPARTMENT OF HUMAN SERVICES

ENTERPRISE SYSTEM (MOSAIC PROJECT)

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1.0 INTRODUCTION

1.1 Purpose

1.1.1 The Risk Management Plan (RMP) presents the process for implementing proactive risk management as part of the overall management of the MOSAIC Project (Project) and the resulting OKDHS Enterprise System. Risk Management is a program management tool to assess and mitigate events that might adversely impact the Project. The RMP will:

1.1.1.1 Serve as a basis for identifying alternatives to achieve cost, schedule, and performance goals.

1.1.1.2 Assist in making decisions on budget and funding priorities.

1.1.1.3 Provide risk information for Milestone decisions.

1.1.1.4 Monitor the health of the Project as it proceeds.

1.1.2 The RMP describes methods for identifying, analyzing, prioritizing, and tracking risk drivers; developing risk-handling plans; and planning for adequate resources to handle risk. It assigns specific responsibilities for the management of risk and prescribes the processes for documenting, monitoring, and reporting processes to be followed.

1.1.3 Risk management was initiated in response to the needs of the MOSAIC Project. It is required to support the fundamental objective of the Oklahoma Department of Human Services (OKDHS) Data Services Division (DSD) Project Management Methodology to provide the Project with a means to monitor and mitigate risks to ensure success of the Project.

1.2 Approach

1.2.1 Risk must be well documented so that it may be understood. Risk management approaches will assist the management team in evaluating the impact of risk to the well-being of the program. The MOSAIC team will develop risk management strategies throughout the life of the Project. The Risk Management Team will be the centralized risk planning, assessment, handling, and monitoring team. The results of the initial baseline risk assessment for the program will identify potential risks and the risk mitigation strategies when risks are deemed to be severe enough that mitigation is required.

1.3 Key Roles and Responsibilities

1.3.1 The MOSAIC Program Manager will have ultimate responsibility for overseeing the risk management functions of the MOSAIC Project.

1.3.2 The Enterprise Program Quality Manager is a resource to the MOSAIC Program Manager and receives direction from her, and has management responsibility for the Risk Management (RM) Program.

1.3.3 The Enterprise Program Quality Lead is a resource to the Enterprise Program Quality Manager and receives direction from her and the MOSAIC Program Manager. The Enterprise Program Quality Lead will share oversight of the Risk Management Program with the Enterprise Program Quality Manager.

1.3.4 The Risk Management Team Lead will report directly to the MOSAIC Quality Team Lead and will oversee the planning, assessment, handling, and monitoring of all risks associated with the MOSAIC Project, following the methodology as described in the RM Plan. The Risk Management Team Lead will document all risks, conduct initial risk assessment, report assessments to the Risk Committee, and escalate risks whenever deemed necessary.

1.3.5 The Risk Committee membership will be defined by the Decision Team and will represent each participating division. The Risk Committee will meet on a regular basis (monthly or as needed) to review the status of all risks that are identified and documented by the Risk Management Team Lead. The Risk Committee will follow the risk management methodology as defined in the Risk Management Plan and the escalation process as defined in Appendix I, Risk Management Process Flow.

1.3.6 Any Project Team member may submit a risk, using the Risk Request Form, Appendix D, when a risk is recognized. The person who submits the risk is the Risk Identifier.

1.3.7 Upon notification by the RM Team Lead, the Decision Team will meet as required, according to the escalation process defined in the Risk Management Process Flow, Appendix I.

1.4 Definitions

1.4.1 Cost Risk - The risk associated with the ability of the program to achieve its life-cycle cost objectives. Some of the risk areas bearing on cost include:

   1.4.1.1 Cost estimates and objectives are not accurate and are unreasonable.

   1.4.1.2 Failure to handle cost, schedule, and performance risks.

   1.4.1.3 Failure to obtain and retain qualified staffing.

   1.4.1.4 Project will experience scope creep during the life of the Project.

1.4.2 Critical Program Attributes – Cost, schedule, and performance properties or values that are vital to the success of the Project. Attributes will be derived from sources such as Project Plan, exit criteria for the next Project phase, goals and objectives, business requirements, test plans, and judgment of program experts. Attributes

will be tracked to determine Project progress in achieving the final required value, according to Appendix A, Critical Program Attributes.

1.4.3 Issue – A point or matter in question or in dispute. Also can be a point or matter that is not settled and is under discussion or over which there are opposing views or disagreements.

1.4.4 Metrics - Measures used to indicate progress or achievement.

1.4.5 Performance Risk – Risk that the computing system will not meet execution requirements, for example, response time and throughput. Performance is characterized by the amount of useful work accomplished by a computer system compared to the time and resources used. A Performance Risk may involve one or more of the following, but is not limited to:

1.4.5.1 Long response time for a given piece of work.

1.4.5.2 Low throughput (rate of processing work).

1.4.5.3 High utilization of computing resource(s).

1.4.5.4 Low availability of the computing system or application.

1.4.6 Risk - Measure of the inability to achieve overall Project objectives within defined cost, schedule, and technical constraints. For processes, risk is a measure of the difference between actual performance of a process and the known best practices for performing the process. Risk has two components:

1.4.6.1 Probability of failing to achieve a particular outcome; and

1.4.6.2 Impact of failing to achieve that outcome.

1.4.7 Risk Event - Event within the Project that, should it occur, could result in problems in the development, production, and implementation of the system. Each risk events must be defined to a level such that the risk and causes are understandable and can be accurately assessed in terms of probability/likelihood and consequence/impact to establish the level of risk. For processes, risk events are assessed in terms of process variance from known best practices and potential consequence/impact of the variance.

1.4.8 Risk Identifier - Person who, while working on the Project, whether in management or not, and while directly involved in performing the tasks being assessed, becomes aware of a risk. The Risk Identifier notifies the RM Team Lead of the risk through the Risk Request Form.

1.4.9 Risk Management Team Lead - Person who is independent, not in the Project management chain or directly involved in performing the tasks being assessed, to whom risks are reported.

1.4.10 Risk Owner – MOSAIC Team Lead, business process owner, or other manager in charge of the area in which the Risk Identifier reports

during the Project. The Risk Identifier may also be the Team Lead or Risk Owner. During the life of the Project, the Risk Owner will be the point of contact with whom RM Team Lead partners to ensure the risk is logged, investigated, rated, handled according to the Risk Category, and tracked.

1.4.11 Risk Rating - Value that is given to a risk or the Project overall, based on the analysis of the probability/likelihood and consequence/impact of the event. For the Project, risk rating will be probability multiplied by impact.

1.4.12 Schedule Risk - Risk associated with the adequacy of the time estimated and allocated for the development, production, and implementation of the system. Some of the schedule risks include:

1.4.12.1 Schedule estimates and objectives are not accurate and are unreasonable.

1.4.12.2 Cost, schedule, and performance risks are not accurate and are unreasonable;

1.4.12.3 Project is unable to obtain and retain qualified staffing.

1.4.12.4 Project will experience scope creep during the life of the Project.

1.4.13 Sponsor – A high-level decision-maker assigned the task by the OKDHS Director to lead and monitor the performance of the MOSAIC Project and to oversee the achievement of the Project's goals and objectives.

1.4.14 Template – A disciplined approach for gathering Project information. A template is essential to the success of most programs. Templates are used to gather information concerning identified risk and serve as a baseline from which risk for the Project can be assessed.

2.0 RISK MANAGEMENT APPROACH

2.1 General Approach and Status

2.1.1 Risk must be well understood, and risk management approaches developed, before decision authorities can authorize a program to proceed into the next phase of the process. The Project will use a centrally developed risk management strategy throughout the planning process and risk planning, assessment, handling, and monitoring methodology throughout the life of the OKDHS Enterprise System. Risk management is applicable to all functional areas.

2.2 Risk Management Strategy

2.2.1 The basic risk management strategy is intended to identify critical areas and risk events, both technical and non-technical (business process driven), and take necessary action to handle them before they can become problems, causing serious cost, schedule, or performance impacts.

2.2.2 The risk management process will use a structured assessment approach to:

2.2.2.1 Identify and analyze those processes and products that are critical to meeting the program objectives.

2.2.2.2 Develop risk-handling options to mitigate risks.

2.2.2.3 Monitor the effectiveness of the approved risk-handling options.

2.2.3 Key to the success of the risk management effort is the identification of the resources required to implement the developed risk-handling options.

2.2.4 Risk information will be captured by the Risk Management Team Lead in a Risk Scorecard, presented in Appendix J, using the approved Risk Management Tool. The Risk Management Team Lead will provide reports on a regular basis or as needed, including:

2.2.4.1 Risk Tracking Report, Appendix E.

2.2.4.2 Risk Watch List, Appendix F.

2.2.4.3 Risk Evaluation Report, Appendix G.

2.2.4.4 Risk Committee Report, Appendix H.

2.2.4.5 Risk Scorecard, Appendix J.

2.2.5 Risk information will be included in all program reviews, and as new information becomes available. The Risk Management Team Lead will conduct additional reviews to ascertain if new risks exist. The goal is to be continuously alert and aware of any areas that may severely impact the program.

2.3 Organization

2.3.1 RM Team Lead is overall coordinator of the Risk Management process, and responsible for:

    2.3.1.1 Developing the Risk Management Process and Methodology.

    2.3.1.2 Developing the Risk Management Templates.

    2.3.1.3 Maintaining the Risk Management Plan.

    2.3.1.4 Maintaining the Risk Scorecard.

    2.3.1.5 Chairing the Risk Management Committee.

    2.3.1.6 Briefing Project Team Leads and the Program Manager on the status of Project risk.

    2.3.1.7 Tracking efforts to reduce risk to acceptable levels.

    2.3.1.8 Providing Risk Management Training.

    2.3.1.9 Facilitating Risk Assessments.

    2.3.1.10 Preparing risk briefings, reports, and documents required for Project reviews and Milestone decision processes.

2.3.2 All MOSAIC Team Members are responsible for complying with the Risk Management Plan and for structuring an efficient and useful risk management approach.

2.3.3 Risk Committee will:

    2.3.3.1 Review and recommend to the RM Team Lead changes on the overall risk management approach, based on Lessons Learned.

    2.3.3.2 Update monthly, or as directed, the Risk Assessments.

    2.3.3.3 Review and be prepared to justify Risk Assessments completed and Risk Mitigation Plans proposed.

    2.3.3.4 Report risk to the RM Team Lead.

    2.3.3.5 Ensure that risk is a consideration at each Program and Design Review.

    2.3.3.6 Ensure Design/Build Team responsibilities incorporate appropriate risk management tasks.

2.4 Risk Training

2.4.1 The key to the success of the risk efforts is the degree to which all members of the Team, both staff and contractors, are properly trained. The Risk Management Team Lead will provide risk training as needed throughout the life of the Project. All members of the team will receive basic risk management training.

3.0 RISK MANAGEMENT METHODOLOGY

3.1   Methodology

3.1.1   This section describes the risk management process and provides an overview of the Risk Management Methodology as outlined in Figure 1. Risk management is defined as the act or practice of controlling risk. It includes risk planning, assessing risk areas, developing risk-handling options, monitoring risks to determine how risks have changed, and documenting the overall risk management program. The Execution phase of the Project begins after planning and proceeds through monitoring.
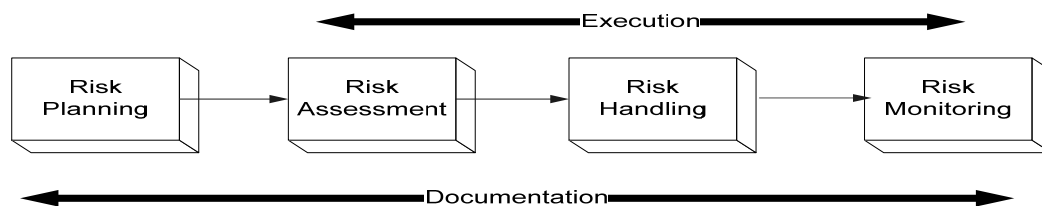

Figure 1. Execution Phase of Risk Management Process

3.2   Phase 1 – Risk Planning

3.2.1   Risk planning consists of the up-front activities necessary to execute a successful Risk Management Program. It is an integral part of normal program planning and management. Planning will address each of the other risk management functions, resulting in an organized and thorough approach to assess, handle, and monitor risks. Planning will also assign responsibilities for specific risk management actions and establish risk reporting and documentation requirements. This RMP serves as the basis for all detailed risk planning, which must be continuous.

3.2.2   The Risk Management Team Lead will be responsible for conducting risk planning, using this RMP as the basis. The planning will cover all aspects of risk management to include assessment, handling options, and monitoring of risk mitigation activities. The Risk Management Team Lead will monitor the activities of the Project to ensure that they are consistent with this RMP and that appropriate revisions to this plan are made when required to reflect significant changes resulting from the planning efforts.

3.2.3   Every OKDHS staff member involved in the planning, design, production, operation, support, and eventual disposal of the legacy OKDHS system or any of its components is a part of the risk

management process. This involvement is continuous and considered a part of the normal management process.

3.2.4 This RMP establishes the basic documentation and reporting requirements for the program. MOSAIC Team Leads will identify any additional requirements that may be needed to effectively manage risk at their level. Any such additional requirements must not conflict with the basic requirements in this RMP.

3.2.5 The RMP will be reviewed and updated, if necessary:

3.2.5.1 When strategies change and there is a major change in Project emphasis.

3.2.5.2 In preparation for major decision points.

3.2.5.3 In preparation for and immediately following technical audits and reviews.

3.2.5.4 Concurrent with the review and update of other Project plans.

3.3 Phase 2 – Risk Assessment

3.3.1 The risk assessment process includes identifying critical risk events/processes that could have an adverse impact on the program, and analyzing these events/processes to determine the probability/likelihood of occurrence/process variance and consequences/impacts. Risk assessment is the most demanding and time-consuming activity in the risk management process.

3.3.2 Risk identification is the first step in the assessment process. The basic process involves searching through the entire Project to determine those critical events that would prevent the program from achieving its objectives. All identified risks will be documented in the Risk Scorecard, with a statement of the risk and a statement of the conditions or situations causing concern and the context of the risk.

3.3.3 Risks can be identified by any MOSAIC Team Lead or by any person in the program (Risk Identifier). MOSAIC Team Members may be able to identify significant concerns earlier than otherwise might be the case and identify those events in critical areas that must be dealt with to avoid adverse consequences/impacts. Persons involved in the detailed and day-to-day technical, cost, and scheduling aspects of the program may be aware of the potential problems (risks) that must be managed.

3.3.4 Step-by-step procedures that the Risk Management Team Lead may use as a guide to identify program risks include:

3.3.4.1 Step One - Understand the requirements and the program performance goals, which are defined as thresholds and objectives.

3.3.4.2 Step Two – Hold brainstorming sessions, interviews, and reviews of Project documents and Deliverables.

3.3.4.3 Step Three – Identify and log each risk on the Risk Scorecard.

3.3.4.4 Step Four – Evaluate each risk described on the Risk Scorecard.

3.3.4.5 Step Five – Assign probability and consequence/impact to each risk event.

3.3.4.6 Step Six – Prioritize the risk events.

3.3.5 Indicators that the Risk Management Team Lead may consider in identifying and assessing risk include:

3.3.5.1 Lack of stability, clarity, or understanding of requirements. Changing or poorly defining requirements guarantees the introduction of performance, cost, and schedule problems, which indicates risk.

3.3.5.2 Failure to Use Best Practices. This virtually ensures that the program will experience some risk. The further a contractor deviates from best practices, the higher the risk.

3.3.5.3 New Process. New processes should always be suspect, whether they are related to design, analysis, or production. Until they are validated, and until the persons who implement them have been trained and have experience in successfully using the process, there is risk.

3.3.5.4 Process Lacks Rigor. A process that lacks rigor is inherently risky. To have rigor, a process should be mature and documented, it should have been validated, and it should be strictly followed.

3.3.5.5 Insufficient Resources. Staff, funds, schedule, and tools are necessary ingredients for successfully implementing a process. If any one of these resources is inadequate, including the qualifications of the staff, there is risk.

3.3.5.6 Test Failure. The failure of a test may indicate corrective action is necessary. Some corrective actions may not fit available resources, or the schedule, and (for other reasons as well) thus may contain risk.

3.3.5.7 Qualified Supplier Not Available. A supplier not experienced with the processes for designing and producing a specific product is usually not a qualified supplier and could be a source of risk.

3.3.5.8 Negative Trends or Forecasts. These are cause for concern (risk) and may require specific actions.

3.3.6 Techniques and tools available for identifying risks include:

    3.3.6.1   Best Judgment. The knowledge and experience of the collective, multi-disciplined MOSAIC Team Members and the opinions of subject-matter experts (SMEs) are the most common sources of risk identification.

    3.3.6.2   Lessons Learned. Similar processes can serve as a baseline for the successful way to achieve requirements. If there is a departure from the successful way, there may be risk.

    3.3.6.3   Transition from development to production. The transition from development to production identifies technical risk areas and provides suggestions for avoiding those risks. It focuses on the technical details of product design, test, and production to help managers proactively manage risk. It also includes information on facilities, logistics, and management, which make this a useful tool in identifying weak areas of planned processes early enough to implement actions needed to avoid adverse consequences or impacts.

    3.3.6.4   Critical Program Attributes. These are metrics the program office develops to measure progress toward meeting objectives. Team members, functional managers, and contractors may develop their own metrics to support these measurements. The attributes may be specification requirements, contract requirements, or measurable parameters from any agreement or tasking. The idea is to provide a means to measure whether the Project is on track in achieving its objectives.

    3.3.6.5   Methods and Metrics for Product Success. A method to highlight areas related to design, test, and production processes where problems are most often found and metrics for the measurement of effectiveness of the processes.

    3.3.6.6   Requirements Documents. Requirements documents describe the output of efforts. Efforts of MOSAIC Team members must be monitored continuously to ensure requirements are met on time and within budget. When requirements are not met, there is risk.

3.3.7 Analysis. The analysis process involves identification of risk elements, evaluation of the risk elements using the risk areas to determine risk events, assignment of probability/likelihood and consequence/impact to each risk event to establish a risk rating, and prioritization of each risk event relative to other risks using the risk impact horizon.

    3.3.7.1   Risk analysis should be supported by a study, test results, modeling and simulation, trade study, the opinion of a

qualified expert (to include justification of his or her judgment), or any other accepted analysis technique. There are a number of analysis techniques that may be useful. Evaluators should identify all assumptions made in assessing risk. When appropriate, a sensitivity analysis should be done on assumptions.

3.3.7.2 Systems engineering analysis, risk assessments, and manpower risk assessments provide additional information that must be considered. This includes cultural impact, system safety and health analysis, and security considerations. Classified programs may experience difficulties in access, facilities, and customer control that can introduce risk and must be considered.

3.3.7.3 The analysis of individual risk will be the responsibility of the Risk Management Team Lead and the Risk Owner to which the risk has been assigned. They may use external resources for assistance, such as field activities, service laboratories, and contractors. The results of the analysis of all identified risks must be documented in the Risk Scorecard.

3.3.7.4 Risk analysis is an evaluation of the identified risk events to determine possible outcomes, critical process variance from known best practices, the probability/likelihood of those events occurring, and the consequences/impacts of the outcomes. Once this information has been determined, the risk event may be rated against the program criteria and an overall risk impact will be assigned. Probability ratings and their corresponding definitions are presented in the Risk Probability table.

3.3.8 Risk Probability. For each risk identified, the probability the risk will occur must be determined. As shown in the Risk Probability table, there are five levels (1 to 5) in the MOSAIC Project risk assessment process, with corresponding subjective defining criteria.

Probability Rating	Definition
1	very unlikely to occur
2	unlikely to occur
3	may occur (about half the time)
4	likely to occur
5	very likely to occur

3.3.9 Risk Impact. For each risk area identified, the magnitude of the impact should the risk occur must be determined. As shown in the Risk Impact table, there are five levels of consequence or impact (1 to 5). At least one of the consequence/impact areas must apply for there to

be risk. If there is no adverse consequence/impact in any of the areas, there is no risk. Some of the areas that will be evaluated when determining consequence/impact for the MOSAIC Project are enterprise, including:

- Program   Management

- Contract   Management

- Strategic   Readiness

- Staffing Readiness and Training

- Communication and Organizational Readiness

- Technical   Readiness

- Business   Readiness

- Program   Quality

- Impact on other teams

Impact	Definition
Critical – 5	An event that, if it occurred, would cause **severe** impact to the Project including: more than 20% budget overage per year; 60 days over Project schedule; and/or 8 years maximum on implementation. High priority management will be required to implement acceptable controls for the risk. This will include an Action Plan defined by the Risk Committee, approved by the Decision Team, and implemented by the Risk Owner within 10 days of Action Plan approval.
Serious - 4	An event that, if it occurred, would cause **major** impact to the Project including: more than 10% budget overage per year; 45 days over Project schedule; and/or 8 years maximum on implementation. Priority management will be required to implement acceptable controls for the risk. This will include an Action Plan defined by the Risk Committee, approved by the Decision Team, and implemented by the Risk Owner within 20 days of Action Plan approval.
Moderate - 3	An event that, if it occurred, would cause **moderate** impact to the Project including: more than 2% budget overage per year and/or 30 days over Project schedule. Risk Committee and Project team leaders will define an Action Plan which must be implemented to avoid moderate impact from becoming serious within 30 days of definition of Action Plan.
Minor - 2	An event that, if it occurred, would cause **minor** impact to the Project including: Less than 2% budget overage per year and 30 days over Project schedule. Risk Management Team Lead will partner with Risk Owner to document the risk and track risk for possible escalation.
Negligible -1	An event that, if it occurred, would have **no effect** on the Project. Risk Management Team Lead will enter the risk into the Risk Scorecard and track for possible escalation.

3.3.10 Risk Impact Horizon. The Risk Management Team Lead will enter all data from the completed Risk Request Form into the Risk Scorecard. If the Impact Horizon is in the Near category, as defined in the Impact Horizon table, the priority of investigation and referral to the Risk Committee will become a top priority.

Impact Horizon	Definition
Near	Earliest date risk impact could occur is < 90 days.
Mid	Earliest date risk impact could occur is 90 - 365 days.
Far	Earliest date risk impact could occur is > 365 days.

3.3.11 Risk Rating and Risk Category. The Risk Rating is determined within the Risk Scorecard. The Probability Factor (1 to 5) is multiplied by the Impact Factor (1 to 5) and the resultant number is the Risk Rating. The highest Risk Rating assigned to a Risk is 25. A description of the Risk Ratings and Risk Categories (0 to 4) is provided in the Risk Category – Risk Rating table, with the actions required by the responsible team member upon discovery of the risk and computation of the Risk Rating.

Risk Category/ Risk Rating	Action Required
Category 4 **Rating 21 – 25**	1. Immediate notification of Risk by Risk Owner to the RM Team Lead (proper documentation created). 2. Immediate investigation required by RM Team Lead. 3. Risk Committee convened immediately to review risk. 4. Decision Team placed on alert. 5. Risk Committee create s a recommendation to be presented immediately to Decision Team. 6. Decision Team reviews, approves, and or revises Action Plan. 7. Risk Owner implements Action Plan. 8. RM Team Lead tracks Action Plan results. 9. Risk Committee reviews monthly Action Plan implement ation results. 10. Decision Team reviews monthly Risk Report.
Category 3 **Rating 16 – 20**	1. Immediate notification of Risk by Risk Owner to the RM Team Lead (proper documentation created). 2. Immediate investigation required by RM Team Lead. 3. Risk Committee convened in a timely manner to review risk. 4. Risk Commi ttee creates a recommendation to be presented to Decision Team at their next scheduled meeting. 5. Decision Team reviews, approves, and or revises Action Plan. 6. Risk Owner implements Action Plan. 7. RM Team Lead tracks Action Plan results. 8. Risk Committee reviews monthly Action Plan implement ation results. 9. Decision Team reviews monthly Risk Report.
Category 2 **Rating 11 – 15**	1. Prompt notification of Risk by Risk Owner to th e RM Team Lead (proper documentation created). 2. Timely investigation by RM Team Lead. 3. Reviewed and evaluated at monthly Risk Committee meeting. 4. Action Plan determined, if required. 5. Risk Owner implements Action Plan. 6. RM Team Lead tracks Action Plan results. 7. Risk Committee reviews monthly Action Plan implement ation results. 8. Decision Team reviews monthly Risk Report.
Category 1 **Rating 6 – 10**	1. Timely investigation by RM Team Lead. 2. Reviewed and evaluated at monthly Risk Committee meeting. 3. Action Plan defined. 4. Risk tracked for further possible action if Risk Rating escalates.
Category 0 **Rating 0 – 5**	1. No action required. 2. Risk placed on Watch List and reviewed by Risk Committee. 3. Risk tracked for further possible action if Risk Rating escalates.

3.3.12 General Assessments. Risk assessment is an iterative process, with each assessment building on the results of previous assessments. The baseline assessment will be a combination of the risk assessment completed by the Risk Management Team Lead as part of the Planning Phase. Results from the risk assessment will be presented monthly and or as indicated by the Enterprise Program Management Office unless otherwise directed.

3.4   Phase 3 – Risk Handling

3.4.1   Process. After the risks have been identified and assessed, the approach to handling each significant risk must be developed. The four techniques or options for handling risks are:

   3.4.1.1   Avoidance.

   3.4.1.2   Control.

   3.4.1.3   Transfer.

   3.4.1.4   Assumption.

3.4.2   Handling. For all identified risks, the handling techniques will be evaluated in terms of:

   3.4.2.1   Feasibility.

   3.4.2.2   Expected effectiveness.

   3.4.2.3   Cost.

   3.4.2.4   Schedule implications.

   3.4.2.5   Effect on system's technical performance.

   3.4.3.6   Most suitable technique selected.

3.4.3   Documentation. The results of the evaluation and selection will be included and documented in the Risk Scorecard, and any other documents, as necessary. After completion of information entry into the appropriate report, the Risk Management Team Lead will complete the investigation and assessment of the risk and document the findings in the appropriate report. These records will be retained throughout the life of the Project.

3.4.4   Procedures. Risk Management Team Lead will be responsible for evaluating and recommending to the Risk Committee the risk-handling options that are best fitted to the circumstances. Once approved, these are included in the Project documentation, as appropriate.

3.4.5   Report. Risk Management Team Lead will prepare a Risk Management Report to be evaluated by the Risk Committee. The report will include:

   3.4.5.1   Required actions.

3.4.5.2   Level of effort and materials required.

3.4.5.3   Estimated cost to implement the plan.

3.4.5.4   Proposed schedule showing the proposed start date.

3.4.5.5   Time phasing of significant risk reduction activities.

3.4.5.6   Completion date.

3.4.5.7   Relationship to significant Project activities/milestones.

3.4.5.8   Recommended metrics for tracking the action.

3.4.5.9   List of all assumptions.

3.4.5.10   Person responsible for implementing and tracking the selected option.

3.4.6   Recommended actions that require resources outside the scope of the Project will be clearly identified, and the risk area or other handling plans that may be impacted will be listed.

3.4.7   Reducing requirements as a risk avoidance technique will be used only as a last resort, and then only with the participation and approval of the Decision Team or Sponsors.

3.5   Phase 4 - Risk Monitoring

3.5.1   Process. Risk monitoring systematically tracks and evaluates the performance of risk-handling actions. It is part of the Risk Management function and responsibility and will not become a separate discipline. It compares predicted results of planned actions with the results actually achieved to determine status and the need for any change in risk-handling actions.

3.5.1.1   The effectiveness of the risk-monitoring process depends on the establishment of metrics that provide accurate, timely, and relevant risk information in a clear, easily understood manner. The metrics selected to monitor program status must adequately portray the true state of the risk events and handling actions. Otherwise, indicators of risks that are about to become problems will go undetected.

3.5.1.2   To ensure that significant risks are effectively monitored, risk-handling actions, which include specific events, schedules, and "success" criteria, will be reflected in integrated program planning and scheduling. Identifying these risk-handling actions and events in the context of business functions establishes a linkage between them and specific work packages, making it easier to determine the impact of actions on cost, schedule, and performance. The detailed information on risk-handling actions and events will

be included in the Risk Scorecard for each identified risk, and thus be resident in the Risk Reports.

3.5.2 Procedures. The functioning an d participation of the MOSAIC Area Program Leaders is crucial to effectiv e risk monitoring. They are the front-line for obtaining indications that risk-handling efforts are achieving their desired effects.

3.5.2.1 Each MOSAIC Program Area Manager is responsible for monitoring and reporting the effectiveness of the handling actions for the risks assigned. Overall Project Risk Assessment Reports will be prepared by the Risk Management Team Lead working with the MOSAIC Risk Committee.

3.5.2.2 All Risks will be reported to the Risk Management Team Lead. All Risks will be tracked. Category 3 and 4 risks will be tracked until the risk reaches Category 2 status. The Risk Management Team Lead will report status and keep the Scorecard current.

3.5.2.3 Risk will be made an agenda item at each management or design review, providing an opportunity for all concerned to offer suggestions for the best approach to managing risk. Communicating risk increases the program's credibility and allows early actions to minimize adverse consequences or impacts.

3.5.2.4 The risk management process is continuous. Information obtained from the monitoring process is fed back for reassessment and evaluations of handling actions. All risks are put into a "Historical File" by the Risk Management Team Lead. If another Risk Request Form is completed on the same risk and it becomes a higher risk than last documented, additional action will be required and the risk will be reassessed.

3.5.3 Risk Committee. Risk Management Team Lead will continue monitoring risks to ensure they stay Low. The status of the risks and the effectiveness of the risk-handling actions will be reported to the Risk Committee:

- Monthly; or
- When the risk has changed significantly (at a minimum when the risk changes categories); or
- When requested by the Program Manager.

4.0 RISK MANAGEMENT DOCUMENTATION

4.1 Risk Request Form

4.1.1 All program risk management information will be documented, using the Risk Request Form within the approved Risk Management Tool. When a Project member discovers a risk within their area of responsibility, they will complete the Risk Request Form, and notify the Risk Management Team Lead of the risk.

4.2 Risk Scorecard

4.2.1 Risk Scorecard Documentation. All risks that are identified throughout the life of the Project will be entered from the Risk Request Form into the Risk Scorecard. During the entry of the risk information, the Risk Management Team Lead will take further actions as defined in the Risk Rating section of this RMP.

4.2.1.1 The Risk Scorecard stores and allows retrieval of risk-related data. It provides data for creating reports and serves as the repository for all current and historical information related to risk.

4.2.1.2 For tracking purposes, each risk entered on the Risk Scorecard will remain on it for the life of the Project.

4.2.1.3 The Program Manager will use the Risk Scorecard to gather information concerning risk, monitor risk ratings, work closely with the Risk Committee, and report status to the Enterprise Program Management Office.

4.2.2 Risk Assessment Documentation. Risk assessments form the basis for many decisions. From time to time, the Program Manager will need a detailed report of any assessment of a risk event. It is critical that all aspects of the risk management process are documented.

4.2.3 Risk-Handling Documentation. Risk-handling documentation will be used to provide the Program Manager with the information required to choose the preferred mitigation option. All documentation related to the task will be uploaded and attached to the risk within the approved Risk Management Tool.

4.2.4 Risk Monitoring Documentation. The Program Manager will use a summary document that tracks the status of risks. Risk Management Team Lead will produce a Risk Tracking List, for example, that uses information that has been entered from the Risk Scorecard. This document will be produced on a monthly basis or as requested.

4.2.5 Relating Risk. Using the approved Risk Management Tool, each risk will be related to other items, such as:

4.2.5.1 Other risks.

4.2.5.2　　Issues.

　　　4.2.5.3　　Mitigation tasks.

　　　4.2.5.4　　Project tasks.

　　　4.2.5.5　　Triggers.

　4.2.6　Risk Mitigation Plan.　Mitigation strategies and action plan for each risk will be documented via the Risk Scorecard and reported in the Risk Committee Report, as presented in Appendix H.　Risk Management Team Lead will be responsible for ensuring the Risk Mitigation Strategies are documented and comprehensive.

4.3　Risk Reports

　4.3.1　Reports are used to convey information to decision makers and team members on the status of the Project and the effectiveness of the Risk Management program.　Examples of reports that may be created:

　　　4.3.1.1　　Risk Committee Detailed Report.

　　　4.3.1.2　　Decision Team Detailed Report.

　　　4.3.1.3　　Metrics Summary Report.

APPENDIX A – CRITICAL PROGRAM ATTRIBUTES

CRITICAL PROGRAM ATTRIBUTES			
Category	**Description**	**Responsible**	**Remarks**
Business Process Definition and Design	Requirements		
	Development		
	Test Plan approved		
	Testing		
	User validation		
Staffing	Work skills defined		
	Staffing model developed		
	Staffing completed		
Technical Performance	Requirements		
	Reliability		
	Maintainability		
	Availability		
	Test Plan approved		
	Testing		
	Accuracy verified by test data and analysis		
Schedule	Support		
	Training		
	Implementation		
	Maintenance		
	Staffing		
	Equipment		
	Office		
Cost	Budgets defined		
	Budgets approved		
Impact on other teams	Implementation schedules reviewed and accepted		

APPENDIX B – PROGRAM METRICS

PROGRAM METRICS		
Risk Area and Team	**Measurements**	**Remarks**
Business Process Definition and Design Business Process Team	Development of requirements. Development of workflow documents. User needs prioritized. Specifications reviewed. User environments defined. Functional requirements defined for each business function.	
Technical Performance Technical Team	Requirements traceability. Requirements stability. Threat stability. Mission profile designed.	
	Alternative system configurations selected. Test methods selected.	
	Design requirements stability. Producability analysis conducted. Design analyzed for: Cost, Process reduction, User flexibility, Testability.	
	Developmental tests at system and subsystem level identified. Tester identified – government, contractor, supplier	
	Contractor corporate-level management involved in failure reporting and corrective action. Responsibility for analysis and corrective action assigned to specific person, with close-out date.	
Schedule	Support	
	Training	
	Implementation	
	Maintenance	
	Staffing	
	Equipment	
	Office	
Cost	Budgets defined	
	Budgets approved	
	Budgets monitored	
	Budget variance approved	
Impact on other teams	Schedules reviewed and accepted	

APPENDIX C - RISK REDUCTION SCHEDULE - EXAMPLE

(Risk Management Tool may automatically produce reports such as these.)

Risk Rating and Action Plan

High

1. Determine and flow-down requirements, evaluate potential hardware and software solutions. Gather data on capabilities, limitations, evaluate alternatives and pick lower risk solutions.

2. Simulations to evaluate subsystem interactions, timing issues. Conduct simulations to evaluate target sales, environment effects.

Medium

1. Preliminary design and trade studies to work issues such as temperature and shock environments. Develop baseline design. Reassess risk.

2. Get hardware and software in place for pre-simulations. Consolidate team structure and supplier.

3. Initiate detailed trade studies and identify alternatives. Validate and implement trade study decisions with customer on teams for lower risk options. Reassess risk.

4. Hardware in-the-Loop (HWIL) and performance prediction demo. Support analyses and design studies.

5. Initiate detailed studies and indentify alternatives. Validate and implement trade study decisions with customer on teams for lower risk options. Reassess risk.

Low

1. Extensive simulations with testing. Develop test program supporting analyses, review and decisions.

2. System integration design (supported by continued simulations) to verify design with selected subsystems. Reassess risk.

3. Qualification resting.

4. Operational testing and simulations.

5. Production.

Request for Accomplished/Planned and Current Year activity tables.

APPENDIX D – RISK REQUEST FORM - EXAMPLE

(Risk Management Tool may automatically produce forms such as these.)

RISK REQUEST FORM
PROJECT INFORMATION
Project Name: MOSAIC **Risk Identifier:** **Risk Owner:**
RISK
Risk ID: **Date Recognized:**
Risk Description:

Risk Impact Horizon:
Estimated time frame this risk may occur: _____   Estimated date: ___/___/____
        Near = < 90 days, first priority for investigation
        Mid = 90 – 365 days, second priority for investigation
        Far = > 365 days, third priority for investigation

Risk Probability:
Likelihood of the risk occurring _____
        1 = very unlikely
        2 = unlikely
        3 = may occur
        4 = likely
        5 = very likely
	Risk Impact:
	Impact on the Project if the risk occurs _____
	1 = negligible, no effect
	2 = minor, small cost/schedule increase (less than 2% cost and/or 30 days)
	3 = moderate, moderate cost/schedule increase (2% cost and/or 30 days)
	4 = serious, major cost/schedule increase (10% cost and/or 45 days)
	5 = critical, failure to achieve minimum acceptable requirements (20% cost and/or 60 days)

Risk Rating: Probability X Impact: 0 – 5 = 0; 6 – 10 = 1; 11 – 15 = 2; 16 – 20 = 3; 21 – 25 = 4   _____
MITIGATION
Recommended Preventive Actions: **Recommended Contingent Actions:**
APPROVAL
Supporting Documentation:
Signature: _____ **Date:** ___/___/____
SUBMIT FORM TO RISK MANAGEMENT TEAM LEAD

RISK REQUEST FORM INSTRUCTIONS:

Project Information	
Project Name	MOSAIC
Risk Identifier	Staff person who identified the risk – may be same as Risk Owner
Risk Owner	Team Lead – person responsible for the risk
Risk Information	
Risk ID Number	Assigned by RM Team Lead after submission
Date Recognized	Date form is completed
Risk Description	Describe the risk

Risk Impact Horizon	Date Risk Identifier believes the risk will occur:
	     Near (< 90 days) – first priority for investigation
	     Mid (90 to 365 days) – second priority
	     Far (> 365 days) – third priority

Risk Probability	Rate the likelihood of the risk occurring, 1 – 5 1 = very unlikely, 2 = unlikely, 3 = may occur, 4 = likely, 5 = very likely
Risk Impact	Rate the impact on the Project if the risk occurs, 1 – 5 1 = negligible, 2 = minor, 3 = moderate, 4 = serious, 5 = critical
Risk Rating	Probability X Impact = 0 – 25; Category = 0 – 4 0 – 5 = 0, 6 – 10 = 1, 11 – 15 = 2, 16 – 20 = 3, 21 – 25 = 4
Risk Mitigation	
Preventive Actions	Risk Identifier's recommendation to prevent the risk occurring
Contingent Actions	Action recommended, if the risk occurs, to minimize impact on Project
Approval	
Supporting Documents	Risk Identifier submits documents to support and substantiate the risk
Signature	Risk Identifier signs, dates, and submits form to RM Team Lead

APPENDIX E – RISK TRACKING REPORT - EXAMPLE

(Risk Management Tool may automatically produce reports such as these.)

RISK TRACKING REPORT		
Risk ID: _____	**Risk Identifier:** _____	**Risk Owner:** _____
Risk Rating: _____	**Risk Horizon:** _____ **Risk Category:** _____	**Date logged (within 48 hours of receipt):** _____
Risk Description:		
Action		**Date**
Alerted RM Team Lead		
Submitted to Risk Committee		
Submitted to Decision Team		
Alerted Decision Team		
Submitted to Risk Committee		
Risk Committee Action		
Decision Team Action		
Team Lead Action (Risk Owner)		
Results of Action		

APPENDIX F – RISK WATCH LIST - EXAMPLE

(Risk Management Tool may automatically produce reports such as these.)

RISK WATCH LIST					
Potential Risk Area	**Risk**	**Risk Owner**	**Date Due**	**Date Completed**	**Explanation**
Program Management					
Contract Management					
Strategic Readiness					
Staffing Readiness					
Communication					
Change Management					
Technical Readiness					
Business Readiness					
Program Quality					
Impact on other teams					

APPENDIX G – RISK EVALUATION REPORT - EXAMPLE

(Risk Management Tool may automatically produce reports such as these.)

Potential Risk Area	Risk ID#	Risk Description	Risk Probability	Risk Impact	Risk Horizon	Risk Category	*Risk Strategy
Program Mgmt							
Contract Mgmt							
Strategic Readiness							
Staffing Readiness							
Communication							
Change Mgmt							
Technical Readiness							
Business Readiness							
Program Quality							
Impact on other teams							

*** Suggested Risk Strategies are: Avoidance, Control, Transfer, Assumption**

APPENDIX H – RISK COMMITTEE REPORT - EXAMPLE

(Risk Management Tool may automatically produce reports such as these.)

RISK COMMITTEE REPORT				
RISK	**RESPONSE STRATEGY**	**RESPONSE ACTIONS**	**RESPONSIBILE**	**INTERVAL OR MILESTONE CHECK**
Staffing of Project resources takes too long Assessment: High	Mitigation	Staffing Team will evaluate and make recommendations to fill positions in a timely manner	Staffing	end of 1st quarter 2008 - reevaluate
RFP approval takes too long Assessment: High	Avoidance	Team will urge RFP developers to expedite completion of RFP	Program Manager	end of 1st quarter 2008 - reevaluate
Business process owners hesitate to use new systems Assessment: Medium	Mitigation	Communication Team will facilitate on-site demos of Project and expand on future use for business process owners	Communication Team Lead	end of 1st quarter 2008 - reevaluate
Unable to find qualified staff in a timely manner Assessment: Medium	Mitigation	Team will design Project with OKDHS staff and accept a longer design schedule	Program Manager	end of 1st quarter 2008 - reevaluate

APPENDIX I - RISK MANAGEMENT PROCESS FLOW
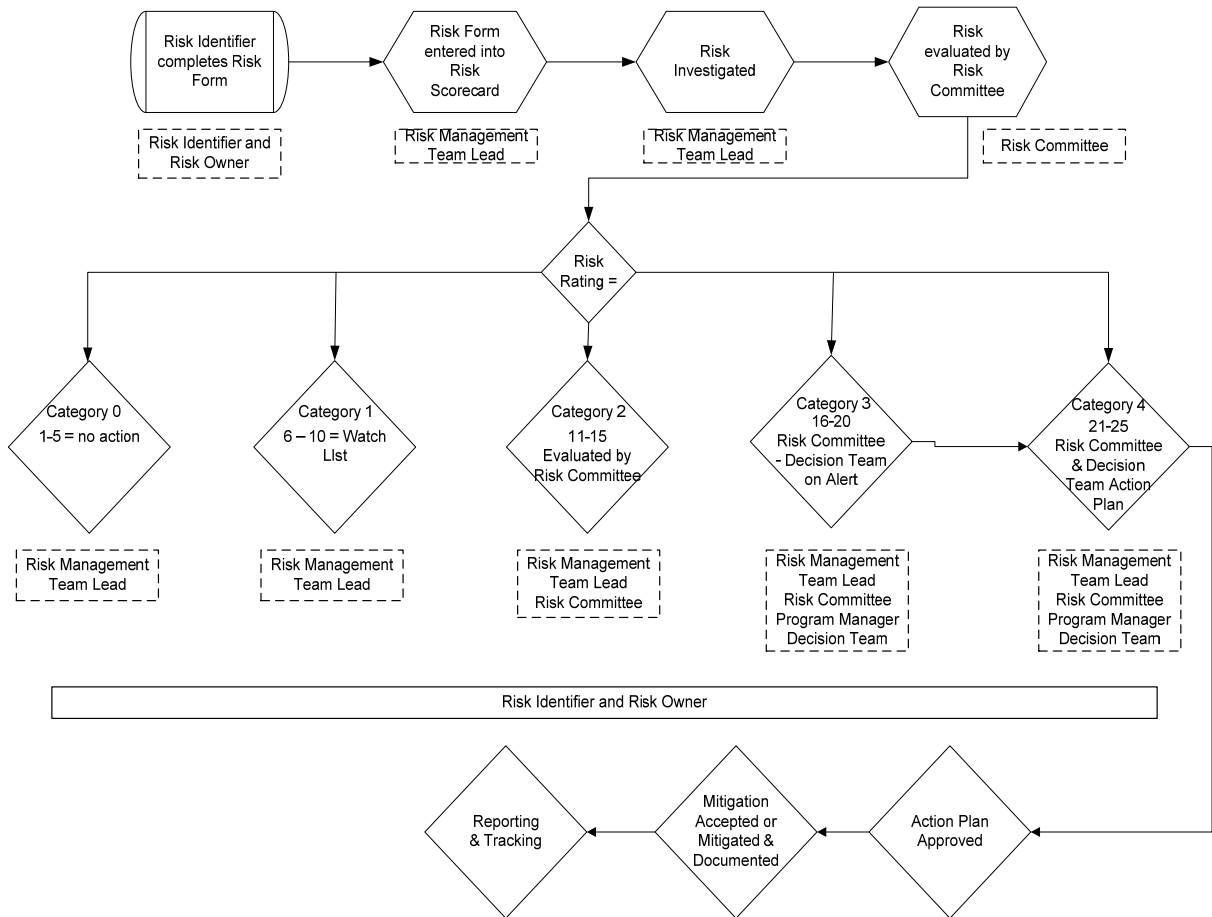
APPENDIX J – RISK SCORECARD - EXAMPLE

(Risk Management Tool may automatically produce reports such as these.)

RISK SCORECARD

OKDHS MOSAIC PROJECT

RISK ASSESSMENT

Risk Owner: Date: 5/16/2008

Risk ID #	Team	Action Code	Date	Risk Description	Effect	Probability	Impact Level	Risk Rating	Risk Category	Impact Horizon	Action Required	Response Strategy	Action Plan
		I = Initial Risk (RI) A = Accepted (RM) R = Reviewed (RC) D = Reviewed (DT) P = Action Plan (DT) M = Mitigation (RO) S = Status (RM) SP = Sponsors (SP) DR = Director (DR) U = Update (RM)		RI - Risk Identifier RM - Risk Management RC - Risk Committee DT - Decision Team RO - Risk Owner SP - Sponsor DR - Director	Result of Risk Occurring	1 – Very Unlikely 2 – Unlikely 3 – May occur 4 – Likely 5 – Very Likely	1 – Negligible 2 – Minor 3 – Moderate 4 – Serious 5 – Critical	Probability X Impact	0 = 0-5 1 = 6-10 2 = 11-15 3 = 16-20 4 = 21-25	Near - < 90 Mid -90-365 Far - > 365	Do Nothing Monitor Investigate	Avoid Control Transfer Assume	Risk Category 3 & 4 Require Action Plan

APPENDIX J – RISK SCORECARD DEFINITIONS

Risk Teams:

Project Management: Provides overall program di rection, including internal and external political strategies. Directs day-to-day busi ness and technical activities and exec utes the Project vision, mission, and goals.

Contract Management: Manages the program areas rela   ted to contracting and procurement.

Strategic Readiness: Manages the program areas related to OKDHS readiness to accept new enterprise systems and is included above in the project management information.

Staffing Readiness and Training: Manages the program areas related to human resource management.

Communication Readiness: Manages t   he pr ogram areas related   to communications management.

Technical Readiness: Manages   the program areas related   to technical integration management.

Business Readiness: Manage   s the program areas relat   ed to busines   s integration management.

Program Quality: Manages the program areas related to program quality.

Action Code/Date:

Action Code	Date
I	Initial risk. Risk Request Form completed by Risk Identifier (RI); entered in Risk Scorecard
A	Risk accepted and validated by Risk Management (RM) Team Lead
R	Risk reviewed and rated by Risk Committee (RC)
D	RC findings reviewed by Decision Team (DT)
P	DT completes Risk Action Plan for Categories 3 and 4
M	Risk Action Plan implemented by Risk Owner - mitigation begins
S	Risk status reviewed and documented by RM Team Lead
SP	Risk status reviewed with Sponsors; documented by RM Team Lead
DR	Risk reviewed by OKDHS Director
U	Risk updated by the RM Team Lead

Effect:

Determine the outcome, if the risk were to occur.

Probability:

For each risk identified, the   probability the risk will occur, based on fiv   e levels of probability: 1 = very unlikely; 2 = unlikely; 3 = may occur; 4 = likely; 5 = very likely

Impact:

Determine the magnitude of impact if the event were to occur.   1 = Negligible; 2 = Minor; 3 = Moderate; 4 = Serious; 5 = Critical

Rating:

Probability X Impact = 0 – 25, which corresponds to Risk Category

Category:

Category determines action required.   0 - 5 = 0 no ris k; 6 - 10 = Ca tegory 1; 11 - 1 5 = Category 2; 16 - 20 = Category 3; 21 - 25 = Category 4

Impact Horizon:

Time in which Risk Owner believes the risk will occur:

Near < 90 days; Mid 90 - 365 days; Far > 365 days

Action Required:

Assign action: Do nothing –   Probability and Impact have such   minor impact to Project that risk is accepted; Monitor - RM Team Lead will document and monitor risk; Investigate – more information will be collected and documented.

Response Strategy:

Assign strategy: Avoid; Control; Transfer; Assume.

Mitigation:

Risk Committee and Decis ion team will review and assess risk,   and design Action Plan. Risk Owner will implement Action Plan. Mitigation of the risk will begin.

Risk Root Cause:

Event or situation that occurred to cause the risk will be determined.