

Process	Sub-Process	What (Objective)	Why (Risk or Exposure)	RETURN TO MENU	How (Applicable Controls)	Control Number
K Information Technology	K5 Program and System Development	Program development projects, which use significant resources, align with County goals.	The program development project may not align with County direction and resources may be misallocated.		Prior to the start of any meaningful program development initiatives involving critical systems, management reviews and documents the purpose, cost, value to the County and consistency with strategic direction prior to granting approval to the development project.	K5-1.1.1
		A consistent project management methodology is adopted and applied to each project undertaken.	Projects may not be delivered on time, within budget and may not satisfy department (business) requirements.		The project management methodology covers, at a minimum, stated objectives, the allocation of responsibilities, task breakdown, budgeting of time and resources, milestones, check points and approvals. Management reviews appropriate reports on the ongoing status, including information regarding: assessments from quality assurance reviews, actual completion of tasks against plans (e.g., design, testing, conversion of data), actual delivery dates against milestones and deadlines, and actual project cost against budgets.	K5-2.1.1 K5-2.1.2
		The program development methodology is clearly defined, understood and consistently applied.	Undefined program development methodologies can lead to inconsistent program deliverables, a lack of integration, poor performance, programming errors and unexpected results.		A System Development Life Cycle (SDLC) is documented and consistently applied to all meaningful program development initiatives.	K5-3.1.1
		A data conversion plan is prepared.	Data may not be imported accurately and completely.		A data conversion plan is documented and approved.	K5-4.1.1
					The data conversion plan includes the methods of collecting and verifying the data to be converted and describes the process for identifying and resolving any errors found during conversion.	K5-4.1.2
					A verification process is in place to ensure mapping of data fields is successful and adheres to County Data Standards.	K5-4.1.3
		The delivered system achieves the necessary business and internal control requirements.	Systems may not operate as intended.		For projects that may have critical impact, a quality-assurance review exists, which approves all programs and system parameters settings before being promoted into production and is independent of the development team.	K5-5.1.1
					A testing plan is developed, approved and monitored for compliance.	K5-5.1.2
					All programs are tested together in a simulated live environment to ensure the system performs as planned. This may include system testing, unit testing, volume testing, sequence testing, user involvement, system interfaces and result checking.	K5-5.1.3
					A back out plan is created and, based on the system criticality, is tested prior to cutover to ensure the system can be restored to the previous state.	K5-5.1.4
		All users are competent in the use of functions and control features, and documentation is adequate to support ongoing operations, problem resolution, and future maintenance.	Inadequate documentation and training may result in errors being unresolved or data not being entered completely into the application.		User and technical documentation is developed and maintained for all new systems.	K5-6.1.1
					A training program to facilitate both business and technical training is developed so that users and/or computer operators receive adequate training reflective of the new system.	K5-6.1.2
		New systems are integrated smoothly into the existing user environment.	During critical transactions or processing periods, introducing systems before users are adequately trained and/or before they can be adequately supported may result in financial or operational loss to the County.		Promotion of program development initiatives into production is approved by management and clearly communicated to the user community prior to cutover.	K5-7.1.1
		Program source code and executables are maintained for integrity, availability, and consistency.	Software inconsistencies and loss of version control may put the County at risk of unexpected program behavior, instability, and/or a lack of information asset availability.		Periodically, custom created source code is checked to ensure it matches production executables. Location of source and location(s) of executables are documented.	K5-8.1.1
					At least one level of version control is secured and maintained for source code or executable software. Original source code is owned by the County and retained. Access to the source code and executables is monitored to ensure no unauthorized modification or destruction can result.	K5-8.1.2
					For initial source code development, review standards for internal documentation exist and are followed. At a minimum they should include the following: 1. Creation date. 2. Programmer name. 3. Program description. 4. Authorization for program. 5. Special program requirements. 6. Comment blocks.	K5-8.1.3
					Naming conventions are developed and consistently applied to all source code and executables that are created as part of program development initiatives.	K5-8.1.4
		Significant program development projects are analyzed to determine if future projects can achieve better results.	If weaknesses in the program development project methodologies are not addressed, the County may continue to make errors, under-utilize resources, and fail to achieve critical objectives.		A post-implementation analysis is conducted after the program development project is completed to ensure the objectives have been appropriately satisfied. The analysis is used to understand next steps, improvement opportunities and create a plan to address residual issues.	K5-9.1.1