



# INTERNAL MANAGEMENT POLICY & PROCEDURE

Applicability:  Adult Operation Only  JUVENILE Operations Only  DEPARTMENT-WIDE

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## INFORMATION TECHNOLOGY AND RECORDS: Application Development and Management

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### POLICY

Applications developed in the Department of Correction shall comply with the Kansas State-wide Technical Architecture, conform to the department's database infrastructure and support interoperability with other agencies and offices. Applications shall be developed that provide ease of use to the business units, facilitate maintenance of the application and operate within the department's information systems infrastructure and technical support staff to adequately manage and support the applications. Whenever practical, applications will be developed with the intent of providing information to all authorized users at all times.

This policy applies to all applications developed and maintained that are implemented through a project, or is mission critical for the business unit or is shared over data communications lines or is designated to be supported by the department's information technology division. All application development initiatives will include requirement definition, process design, data design, coding and testing. Application developers must assess the impact of the application's functional, performance and capacity requirements on the network, client workstation, servers and storage components. Application testing shall be conducted in an environment that closely resembles the complexity and load stress of the production environment.

Proper application development and management techniques will assist in the department's meeting the following goals:

- Implement new applications that are consistent with user requirements in a timely manner.
- Avoid escalation in costs or continual delay of a project.
- Preserve organizational support at all times during the development of the application.
- Ensure proper commitment of resources for the project.
- Produce a system that meets the needs of the users and is supported by the technical support staff.
- Provide effective life-cycle support for the system including:
  - Security,
  - Train the Trainer training and assistance,
  - Efficient operation,
  - Rapid error response,
  - System correction and enhancement,
  - Backup and recovery capability, and
  - Recruitment, training and retention of proficient technical staff.

### DEFINITIONS

Operational Management: Actions relating to the deployment, operational control and service planning of a completed application.

Standard Development Products: Documentation or deliverables that are required outputs for any application development project. These products or deliverables include:

- Detailed System Design,
- General System Design,
- Needs Analysis,
- Project Plan,
- Source Code,
- System Concept,
- System Procedures,
- Test Plan, and
- Training Plan.

Descriptions of these products are found in the Kansas State-wide Technical Architecture.

System Development Life Cycle: Sequence of events that a development team follows to produce an information system. A high level comprehensive set of project tasks to identify system requirements and produce effective, supportable software and processes that meet those requirements. The four System Development Life Cycle models that may be utilized are:

- Acquired software, No modifications,
- Linear Development,
- Spiral (Incremental) Development, and
- Iterative Development (or Functional Prototyping).

Descriptions of the four models are found in the Kansas State-wide Technical Architecture.

## **PROCEDURES**

### **I. Development and Implementation of Application Software**

- A. All business units shall consider acquiring and utilizing existing applications to perform generic business processes.
- B. The department shall consider purchasing stable platforms and operating systems.
  1. Applications will not be developed utilizing Beta versions of software or untested technology.
  2. Commercial, off the shelf (COTS) products must be supportable by the Information Technology staff within the department's infrastructure.
    - a. All commercial products shall be tested by actual users prior to deployment of the software to determine usability.
  3. Performance must be balanced with cost factors to determine long-term application development and support decisions.
- C. The impact of new applications on existing hardware and network infrastructure must be considered to prevent the inadvertent obsolescence of current hardware and software.
- D. New applications shall be developed utilizing application development languages and tools that are not dependent on a particular vendor for support and updates.
- E. Applications that rely on external services or products should be written without reference to a specific physical device by using host names that can be re-directed or through local drive mapping.

- F. New application development and major revisions to applications shall incorporate interfaces that will support Internet-enabled devices. These devices may include:
  - 1. Cell phones;
  - 2. Workstations; and
  - 3. Tablets.
- G. Application configurations will be based on a client/server environment that separates the user interfaces, logical structure, physical data and processing.
  - 1. Hardware and software shall comply with existing industry standards for remote control and monitoring.
  - 2. Configuration management and support must consider the impact on local information technology staff to accommodate upgrades, repairs and other support.
- H. Applications must take into account the impact on the State infrastructure and on the Department's capacity to store and manage databases and applications.
- I. All applications will utilize common user interfaces that can be adaptable to users and user populations.
  - 1. All department applications developed for public use shall employ a consistent set of design principles and standards in its user interface.
- J. Interim applications are acceptable under the below conditions:
  - 1. Shall meet a specific business unit need.
  - 2. Shall have a specific expiration date defined at the beginning of the application deployment.
    - a. Shall be of a period of less than one year, and
      - (1) Exceptions must be approved by the Information Technology Steering Committee.
  - 3. Includes prototype versions of applications developed within the Department or purchased from a vendor.
    - a. Use functional prototypes to determine functional requirements, and
    - b. Perform proof-of-concept prototype to demonstrate the validity of technical assumptions or develop alternative applications.
- K. All applications development projects will include a final report that identifies key lessons learned to assist future development.
- L. New data structures will be consistent with data structures developed by the National Crime Information Center (NCIC) and Kansas Criminal Justice Information System (KCJIS).

## II. Responsibilities:

- A. Chief Information Officer or designee:
  - 1. Analyzes and evaluates commercial software packages that may meet department requirements to ensure that use of the product conforms to the current business practices and processes.

2. Coordinates with other agencies to evaluate similar applications and processes that may be applied to the department's system.
    - a. Provides department technical staff opportunities to acquire skills and techniques from other agencies that manage similar applications.
    - b. Coordinates with other multi-agency system development committees or task forces to assist in identifying potential problems and information sharing.
  3. Ensures department access to source code throughout the life of any system developed for the department.
  4. Ensures that applications utilized by the department are supported by the appropriate level of technical support.
    - a. Assign support role specialists as necessary to the development team to include:
      - (1) Information Architect specialist,
      - (2) Application Developer,
      - (3) Network support staff,
      - (4) Database administrator, and
      - (5) Other administrative responsibilities.
  5. Ensures congruence between the project's direction, department architecture, Kansas Criminal Justice Information System and the State of Kansas enterprise architecture.
  6. Identify and eliminate any applications that do not support current business practices.
  7. Implements and maintains automated tools for analysis, design, generation and management of applications.
  8. Implements quality assurance techniques and procedures to confirm that the completed system meets the documented requirements.
  9. Oversees the management of all projects supported by the department.
- B. System Management Team:
1. Provides the appropriate level of staff and resources to support the development of applications to include participation in the below processes:
    - a. Requirements definition,
    - b. Testing,
    - c. User manual support to include:
      - (1) Development of the manual;
      - (2) Maintenance of the manual, including updating the documentation; and
      - (3) Training users on proper use of the application and user manual.
  2. Participates in the design and development phases by supporting prototype and unit testing.

3. Serves as executive sponsor for major applications development and infrastructure projects.
    - a. Identifies the project's vision and attainable goals;
    - b. Educates staff and stakeholders on the functional and technical issues of an application project; and
    - c. Designates non-technical (functional) specialists to lead development natural work teams.
  4. Ensures that staff are available for training during deployment phases of a new application.
- C. Information Technology Steering Committee:
1. Provides operational oversight over the development and implementation of an application on behalf of the Secretary of Corrections and other internal and external stakeholders in accordance with IMPP 05-147D.
  2. Recommends major modifications to application development objectives for approval by the Secretary of Corrections.
  3. May override the recommendation of the Change Advisory Board.
- D. Change Advisory Board
1. Comprised of a member from each major functional area within the agency.
  2. Reviews requests for new applications or changes to existing applications and approves or denies the request.
  3. Prioritizes the order in which the change will be worked on by the application development team.
- E. Project Manager:
1. Assumes this role as a principal duty for projects that:
    - a. Exceed total acquisition and fielding costs of over \$250,000; and
    - b. Are reportable to the Kansas State Legislature under provisions of ITEC Policy 2500, Project Status Reporting.
  2. Shall be an individual who completed the Kansas Certified Project Manager Methodology Training or equivalent post-graduate education or training.
    - a. Post-graduate level education or training may include any of the minimum levels of education or training:
      - (1) Bachelor of Science Degree in any engineering field;
      - (2) Master of Business Administration or closely related fields; and/or
      - (3) Certified as a Project Manager through other professional or government organizations.
  3. Incorporates user training in the deployment phases of the application.

4. Develops a project plan for development of the application that can be integrated into a system-wide plan for development and support.
    - a. Conducts analysis of the problem to be resolved.
    - b. Clearly defines the changes required to update hardware, network and software associated with placing the application into production mode.
      - (1) Identifies application function, performance and capacity requirements to assist in planning and managing department and statewide infrastructure components to support the application.
    - c. Defines the security requirements to ensure access to the network, application server and databases.
    - d. Defines the operational support responsibilities.
  5. Supervises third party development of applications
    - a. Develops statement of work for vendor and contractor staff
      - (1) Specifications shall be limited to short-term development for well-defined areas of support.
    - b. Verifies references of vendors to validate vendor expertise in the area.
    - c. Prohibits vendor changes in key personnel during the execution of a contract unless necessary to improve the application or project success.
    - d. Incorporates as a contractual requirement the transfer of knowledge from the vendor to the supporting staff on the specifications and support of the application.
  6. Maintains documentation on key milestone completion.
  7. Coordinates with database administrator on proper version control methodology in accordance with IMPP 05-147D.
  8. Tests applications in an environment and load that will be experienced in a production environment.
  9. Implements records management procedures in the identification, retrieval, retention and archiving of application development products.
- F. Database Administrator:
1. Provides access to system documentation, methodology guidance, tools documentation and training materials to all technical staff and contract support as necessary.
- G. Lead Developer:
1. Allows for rejection of prototypes and incorporates documented modification requests into future versions.
  2. Applies consistent coding standards as defined by the Director of Information Technology or designee across all software developed.
  3. Defines application and database events and error conditions within the application to alert operational support staff and automatically resolve problems or request assistance.

4. Develops user interfaces that are consistent with the changes in the processes and that provides for minimal disruption of the processes.
5. Incorporates into automated production schedules recurring application processes to facilitate automated monitoring and management.
6. Implements new data structures that are consistent with data structures developed by the National Crime Information Center (NCIC) and Kansas Criminal Justice Information System (KCJIS) for all offender based applications.

**III. This IMPP shall serve as final policy in all departmental facilities, and no General Orders shall be allowed on this subject.**

**NOTE:** The policy and procedures set forth herein are intended to establish directives and guidelines for staff, residents, and offenders and those entities that are contractually bound to adhere to them. They are not intended to establish State created liberty interests for employees, residents, or offenders, or an independent duty owed by the Department of Corrections to employees, residents, offenders, or third parties. Similarly, those references to the standards of various accrediting entities as may be contained within this document are included solely to manifest the commonality of purpose and direction as shared by the content of the document and the content of the referenced standards. Any such references within this document neither imply accredited status by a Departmental facility or organizational unit, nor indicate compliance with the standards so cited. The policy and procedures contained within this document are intended to be compliant with all applicable statutes and/or regulatory requirements of the Federal Government and the state of Kansas. This policy and procedure is not intended to establish or create new constitutional rights or to enlarge or expand upon existing constitutional rights or duties.

**REPORTS**

None.

**REFERENCES**

IMPP 05-147D

ITEC Policy 2500, Project Status Reporting  
ITEC Policy 2510, Oversight of Information Technology Projects  
ITEC Policy 2530, Project Management  
ITEC Policy 4010, Technical Architecture Compliance Requirements  
Kansas Statewide Technical Architecture

**HISTORY**

04-06-15 Original  
05-13-22 Revision 1

**ATTACHMENTS**

None.