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Risk Analysis						
Pre- implementation	Audit Steps	Risk Identification/ Note	Doc. Ref.	Risk Asse ssme nt		
1.0 PROJECT MANAGEMENT	 Is an appropriate level of management involved in the project? Does the project team have a delegated level of authority to make decisions concerning the project are these documented, if exceptional authorization required is the procedure documented? Does the project team have an appropriate level of expertise? in the technical (computer) area, and in the business area? Does the project team include members from the user areas (all affected departments) as well as systems development, vendors, computer operations, audit, legal, compliance and all other appropriate areas? 		-Implementation Work Package	L	M	Н

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1.1 Determine if the project has an established project team, including a Project Manager from the Information Services project area.					
IT Assessment Phase Implementation Phase					
2.1 Determine if a project feasibility study has been commissioned and approved: IT Assessment Phase	 Does the study detail the scope of the project? Is a project management plan included? Has a project budget been included? Does the budget appear realistic? Has the appropriate level of management reviewed and approved the study? 	Strategic	- IT Assessment Report. -Requirements Definition Documents. -RFP and Vendor Evaluation report.		X

Risk Analysis						
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2.0 PROJECT PLANNING						
2.1 Determine if the project team has an established project plan:	 Is the plan documented? Do the time frames appear realistic? Are the critical phases determined?			L	M	Н
Implementation Phase	 Does the plan require management/user approval at specified points? Can the project be canceled at early enough points? 		-Project Plan			

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2.2 Determine if the project plan included all the required phases of project development, including: **Implementation Phase**	 test phase, training for users, conversion, and implementation. Does it cover all applications and areas concerned? Does it cover all interfaces to/from the application? 	-Project Plan		
2.3 Determine if the project plan was followed and any deviations documented, including extensions of the schedule. Implementation Phase		-Deviation Form		

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3.2 Determine if the system met the stated functional business requirements and followed appropriate development standards. IT Assessment Phase	 Are user requirement documented well and clearly? Have other departments which will be involved in the systems development and operation been consulted during preparation of the requirements and have recommendation been included? Do user requirements include security control and privacy measures? Do user requirements appear to reflect actual need? 	-Definition Requirements Document Vendor Proposal		
3.3 Determine if all aspects of the system will be tested, as outlined in the detail requirements, including, but not limited to IT Assessment Phase Implementation Phase	 data entry, editing, reports, calculations, error reporting, interfaces with other systems, network communications, print handling, Are all critical functions tested? Are all existing capabilities tested, and 	-Contract -Vendor Proposal		

Risk Analysis					
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4.0 TRAINING					
4.1 Determine if IT staff and key user received a proper training prior implementation, including:-	 In case of ready-made application, ensure a detail Training Manual, a User Manual, and a Technical Manual were received prior implementation In case of outsourcing or in-house 		L	M	Н
Implementation Phase	 development, ensure the above manuals are produced by the end of the development activity. Ensure that all manuals were reviewed and signed off 	-Training Manual -User Manual -Technical Manual			

Risk Analysis					
Pre- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Ri sk Ass ess me nt	

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DESIGN S.1 Obtain and review all documents related to the system design and ensure all functional, security, and technical requirements are addressed. Implementation Phase	 Did project manager assigned adequate resources to accomplish objective? Has a detailed work plan been developed for the system specifications phase? Are system specification well and clearly? Review the system flowcharts and diagrams for adherence to the general design? Verify that appropriate approvals were obtained for any changes and all changes were discussed and approved by appropriate user management? Were the system data, and security administrators reviewed the system specifications? Review the input, processing and output controls designed into the system for appropriateness. Assess the adequacy of audit trails to provide traceability and accountability of the system transactions. Verify the integrity of key calculations and processes. Verify that the system can identify and process erroneous data correctly. Review the quality assurance results of the programs developed during this phase. 		-Gap Analysis Report -FSD -IWP -TDD	L	M	Н
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Risk Analysis			

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Pre- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Ri sk As ses sm ent		
5.2 Determine if there is a written conversion plan and details all requirements. Implementation Phase	 Will the conversion be manual or automated? Is the data conversion approach defined:- full conversion, "shell accounts" and update later, interim and "bridge" process, and combination Is a fallback approach defined? Has the plan been approved by management and user departments? Are all source systems identified? Are all components identified? 		-FSD -Conversion plan	L	М	Н
5.3 Determine if there will be a parallel run prior to actual conversion. Ensure the results of the parallel run will be reviewed prior to the actual conversion. Implementation Phase	 Were the results of the parallel run consistent with expectations? Have all problems encountered in the parallel been resolved prior to full conversion? 		-FSD -Conversion plan			

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Risk Analysis			
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Pre- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt		
2. DEVELOPMENT 6.1 Determine if there is a development plan and details all requirements. Implementation Phase	 Is there a written development plan? Were the system development methodology been used effectively during the development phase? Have the significant changes to systems specifications been controlled and approved by project management? Is there a continuous update for time, cost/benefit, impact study, and risk analysis? Do program specifications and user procedures provide adequately for internal control, audit features, and data security? 		-FSD -Development plan	L	М	Н

Risk Analysis					
Pre- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt	

Pre- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt		
Risk Analysis						
Implementation Phase	 v. Acceptance test vi. Parallel test Are the users included in the testing? Do the users have to sign-off on the success of the test program? Are all aspects of the system will be tested, as outlined in the detail requirements? Has the system results been reviewed in detail? Is there a problem resolution procedure for those tests not meeting the expected results? 		-Test plan -UAT Report -Unit test report -Integration test Report	L	M	Н
3. TESTING 7.1 Determine if the system is adequately tested prior to implementation, the test plan includes all aspects of the new system, and all unexpected results are thoroughly resolved.	 Has the test plan been documented, including: Unit test Integrated test System test including interfaces Pilot test 					

4. IMPLEMENTATION 8.1 Determine if there is a written implementation plan in place. Ensure that the plan include responsibilities for all areas involved.	 Is the system documented adequately? Are all results of the unit test, integration test, and pilot test satisfactory? Is the level of internal control and security adequate? Does the system meet original objective satisfactorily? Is the vendor available for problem resolution? After installation, is the maintenance staff ready and able to take over? Do users know how to get help when the installation team leaves? 	FSD	L	М	Н
Implementation Phase		-FSD -Deployment Plan			

Risk Analysis						
Post- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt		
9.0 SYSTEM DOCUMENTATION 9.1 Determine if an operations manual has been prepared prior to, or after the implementation of the system: Live System	 Does the manual include complete instructions on the system operation? Does the manual include run books with all program documentation? Does the manual include all job steps, including the sequence the jobs should be run, and prioritization? 		-User Manual -Technical Manual -Operation manual	L	М	Н

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9.2 Review the department's	Do the procedures include adequate			
procedures for the new system:	segregation of duties, is all input subject			
	to maker / checker, or input verification			
	controls including changes in static data?			
	 Do the procedures include all aspects of 	Business Dept. P&P		
	balancing the system and any related GL			
	Accounts?			
	 Do the procedures include security 			
	procedures:			
	- password changes			
Live System	- logon/logoff			
	- PC/ terminal control			
	 diskette/ tape/ disk control 			
	- access to the workstation			
	- key control			
	 report distribution and control 			

Risk Analysis					
Post- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt	

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1. PROCESSING CONTROLS 10.1 Determine at the project's conclusion whether the project met the objectives defined in the original proposal: Live System	 Were the expected benefits of the new system realized? Does the system perform as expected? If there were differences found in expectations and actual results, were they investigated and dispositions noted? If there were inefficiencies noted, were they documented and the dispositions noted? Are transactions and account balances properly recorded on the Accounting systems, if applicable? (What accounts will the transactions affect?). Has a written procedures been prepared that explain all error codes and messages, and corrective action for each? Does the application have provisions that prevent concurrent file/record updates? Is the file/record locked when one user is accessing in update, and are there appropriate error messages provided? Does the application have controls to check for data integrity? Does the system generated transactions can be traced back to the source for reconciliation? Is there adequate audit trails for tracing purposes? 	-System Manuals	L	M	Н
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Risk Analysis			

Post- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt		
2. OUTPUT CONTROLS 11.1 Determine if output data has been classified as per the Security Policy/Plan. Information can be classified as restricted, confidential, public, etc. Live System	 Is there detail documentation for output requirements? (Output includes reports as well as files.) Are all departments' concerns considered? Does the documentation include: Organization of the output, Who is to receive the reports, retention of reports and files, and Audit trail considerations (these should be sufficient to identify who, when, how and why a user accessed a resource or amended an item. Does the output provide the users with the ability to control and ensure the completeness, accuracy, and authorization of the data? Do the reports include the ability to trace the originator of each transaction? Do the reports include control totals, if applicable? Is there a means to verify the information included on the reports? Have the routing and distribution procedures been established? 		-System Manuals	L	M	Н

Risk Analysis			

Post- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt		
3. SYSTEM SECURITY 12.1 Physical Security Determine if the physical security over the hardware and software is adequate. Live System	 Are the items secured in some way? Are they in a locked room, limited access area, or someway controlled? Are the terminals or Pcs in a locked, inaccessible area, kept away from the public and unauthorised users? Is there control over the modems? Are the diskettes stored in fireproof cabinet? Are backups stored off site? Are the tapes stored in a secure tape library? Will terminals or PCs have floppy diskette locks, who will have key control? 		-FSD -Security Document	L	М	Н

Risk Analysis					
Post- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt	

1. LOGICAL SECURITY Determine if the system meets the minimum standards as per SHB Information Security Policy. Live System	 Are there varying levels of security access for different types of transactions: inquiry only, update non-monetary transactions, update financial transactions, and add/delete records. Are the levels appropriately assigned to the user department staff? Who has the ability to change passwords? Are the password assignments controlled by the user department or data security? If controlled by the user department, does the staff member also have authority to input transactions? Are passwords masked, encrypted, stored in a visible file? Are there controls to log and monitor all sign-on attempts, both valid and invalid? Is all access to the system monitored? Are all invalid sign-on attempts logged and monitored? Does the application have controls in place to prevent unauthorised access to the system? Does the system lock out after a certain number of invalid sign-on attempts, and Is both a password and logon-id required for access to the system? 	- Security Documents -User Profile	L	М	Н
	access to the system?				

Risk Analysis					
Post- implementation	Audit Steps	Risk Identification/Note	Doc. Ref.	Risk Asse ssme nt	

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2. AUDIT TRAIL Determine if there are adequate and effective audit trails and reports designed in the system.	 Are there detail audit trail reports produced by the system? Are audit reports listed on the report distribution schedule? Are the user departments satisfied with the information produced on the audit reports? Will the reports meet the user and management needs? Will the reports satisfy audit needs. Can users input information which will alter the audit trail reports? Are the reports distributed and reviewed by the appropriate people? 	-Audit Trail Report	L	M	Н	
Live System						-

Risk Analysis					
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14.0 BACK-UP & RECOVERY 14.1 To determine if there are adequate backup and recovery	 Are there procedures developed for disaster recovery and restart for the system. Have 				
procedures developed for the system. Live System	the recovery/restart procedures been documented? Do the procedures include all foreseeable circumstances? Do the plans include recovery of hardware and software? PCs or terminals, printer, software (and documentation), modem, and phone lines.	-Operation Manual -Contingency plan	L	М	Н
	 Are there procedures developed for periodic backup of the system? How often will backups be done? How long will the backups be kept? What media will the backups be done on? (Tape, disk, diskette), and Have the backup procedures been documented? How will the backups be labeled? Is the labeling consistent? 				