INTERNAL CONTROLS IN

THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Procedures Manual for

INTERNAL CONTROL REVIEW

UNITED STATES OF AMERICA

Training & Development Division
Office of Personnel Management

&

The Controller
Office of Financial Management

Agency for International Development
Washington, D.C. 20523

September 1985

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Prepared for

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The Controller
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PREFACE

This is the second in a series of AID Procedures Manuals on Internal Controls -- and is a follow-up to the earlier manual which dealt with Vulnerability Assessment. This booklet focuses on the **Internal Control Review Process** itself - what it is and, more important, how to conduct one in the AID context.

As with the Vulnerability Assessment manual, this Internal **Control** Review Process manual supplements the self-study INTERNAL CONTROL COURSE prepared by the Department of Defense; In this instance, the two Blue Books which comprise Volume III.

The material herein has been drawn from many sources - from the general area of management analysis as well as financial management - and presented here as a ready reference and working guide. It contains both general procedures and specific techniques. The overall process is in accordance with the requirements of Circular A-123 of the Office of Management and Budget, while the specific analytic tools have been found to be helpful in this type of process in the past.

I am pleased to have had the opportunity to undertake this activity for AID. Hopefully this booklet (and the instruction which accompanies it) will facilitate the conduct of the Agency's Internal Control Reviews, thus contributing in part to greater effectiveness in AID'S delivery of social, economic and technical assistance to the developing countries of the free world.

I wish to express my appreciation for the cooperation and technical support provided by Al Hulliung and Kay Freeman of the AID/W Controller's Office, as well as the logistical arrangements made by John Jessup and Andra Herriott of tne Washington Training Center.

Fairfax, Va   Kenneth F. Smith
September 1985

INTERNAL CONTROLS IN AID

THE NEED FOR VULNERABILITY ASSESSMENT

AND INTERNAL CONTROL REVIEW

The Agency for International Development (AID) has an annual budget in excess of $5 billion that is administered by its headquarters offices and 69 missions located throughout the world. The very nature of its assistance programs and its geographic dispersion increases AID's vulnerability to fraud, waste, and abuse. Accordingly, it is very important for AID to adequately assess the internal controls over its multi-billion dollar programs and administrative functions and to evaluate its accounting system as required by the Federal Managers' Financial Integrity Act of 1982 (FMFIA).

Regional Inspector General for Audit
Washington   Audit Report No. 85-07
December 7, 1984

THE SELF-STUDY MATERIALS

AID decided to utilize the Internal Control Course developed for the Department of Defense -- both for self-study familiarization, and for documenting the Vulnerability Assessment and Internal Control Review process.

The DOD self-study course consists of five booklets, in a three volume set, as follows:-

- Volume I   - COURSE OVERVIEW   [Red Cover]

- Volume II   - ASSESSING VULNERABILITY   [White Cover]

    - Text

    - Documentation Workbook*

- Volume III - REVIEWING INTERNAL CONTROLS   [Blue Cover]

    - Text

    - Documentation Workbook*

*Note: Although these are designated as "workbooks" - since they contain .he only copies of the blank forms you will be required to use in making your unit internal control review, you should have the forms photocopied for actual use, and retain the workbook intact and unmarked.

This training booklet and orientation session have been devised to provide you with an overview of the Internal Control Process in the AID setting. Experience to date indicates that most people have benefitted from the opportunity to review and discuss the concepts of internal control with their peers, and clarifving particular issues before undertaking the self-study process, or conducting an actual review.

This booklet and orientation emphasizes Internal Control Review

INTERNAL CONTROL SYSTEMS

BACKGROUND

The **Accounting and Auditing Act of 1950** required the head of each department and agency to establish and maintain adequate systems of internal control.

Internal Control is an agency's plan of organization, methods and procedures to **provide reasonable assurance** that:-

- obligations and costs are in compliance with law

- funds, property, and other assets are safeguarded against waste, loss, unauthorized use, or misappropriation

- revenues and expenditures are properly recorded and accounted for

In early 1981, the President announced his objective to improve the management and administrative systems of the Federal Government, and asked the Office of Management and Budget (OMB) to take an active role in achieving this goal. The resulting program - "Reform 88" - is coordinated by the White House, with oversight by the Cabinet Council on Management and Administration. The President's Task Force on Management Reform is implementing Reform 88.

Reform 88 includes several management improvement initiatives. **One of these is improved internal controls.** The President ordered an aggressive Government-wide program to strengthen controls. In response, the Office of Management and Budget issued a Circular - **A-123, Internal Control Systems** - directing agency heads to establish and maintain improved control systems and make regular reviews to see that the controls are functioning.

Repeated reports of fraud, waste, abuse and mismanagement of government resources (which might have been avoided if stringent, more effective internal controls existed) was the impetus for further legislation - the **Federal Managers' Financial Integrity Act of 1982** (FMFIA). This Act reinforced and strengthened OMB's A-123 Circular by directing that each agency:-

- establish internal accounting **and administrative** controls

- prepare an annual statement on the **status** of the control system to the President and the Congress

- comply with **standards** for internal accounting and administrative controls, prescribed by the Comptroller General

- identify any "material weaknesses" - i.e. any situation in which the control procedures or degree of operational compliance **does not provide reasonable assurance**

INTERNAL CONTROLS IN AID

ACTION AGENDA FOR 1985

Item No.	Item	Deadline
1.	Establish system to track internal control	31 May 85
2.	Vulnerability Assessments due in to ICOC from all assessable units	30 Jun 85
3.	Status report of open items identified on Schedule B.	30 Jun 85
4.	ICOC meeting to review Vulnerability Assessments (VAs).	16 Sep 85
5.	Comments to assessable units based on review of VAs, indicating priority areas for Internal Control Reviews in CY 1985	20 Sep 85
6.	Training in Internal Control Reviews	23 Sep - 8 Oct 85
7.	Status report on open items remaining on Schedule B.	30 Sep 85
8.	Reports due from assessable units of Internal Control Reviews (ICRs) completed	30 Nov 85
9.	End of year certification statements due from USAIDs and AID/W components	30 Nov 85
10.	ICOC meeting to review ICRs and Agency Certification	15 Dec 85
11.	Draft certification statement to the Administrator	20 Dec 85
12.	Status report on Schedule B open items	31 Dec 85
13.	Guidance to assessable units for Internal Control.	31 Dec 85

INTERNAL CONTROLS IN AID

AUTHORITY

HANDBOOK 19 (FINANCIAL MANAGEMENT) is AID's basic reference on the concepts of, and requirements for, internal control policy and procedures.

Appendix 1D (28 June 1983) is AID's Internal Control DIRECTIVE.

It prescribes policies and assigns responsibility to:

- Develop

- Establish

- Maintain   INTERNAL CONTROL SYSTEMS

- Review, and

- Improve

for AID programs and administrative functions

in order to minimize

FRAUD, WASTE and ABUSE of resources, and

MISMANAGEMENT of government programs.

AID policy requires that internal control systems be evaluated by:

- VULNERABILITY ASSESSMENTS, and

- INTERNAL CONTROL REVIEWS

This course deals specifically with the requirements for and process of conducting an Internal Control Review

THE INTERNAL CONTROL PROCESS

The Internal Control Process consists of seven major steps:-

1 ORGANIZE THE PROCESS

2 SEGMENT THE AGENCY

3 CONDUCT VULNERABILITY ASSESSMENTS

4 DEVELOP PLANS FOR SUBSEQUENT ACTIONS

5 CONDUCT INTERNAL CONTROL REVIEWS

6 TAKE CORRECTIVE ACTIONS

7 PREPARE REPORT ON INTERNAL CONTROLS
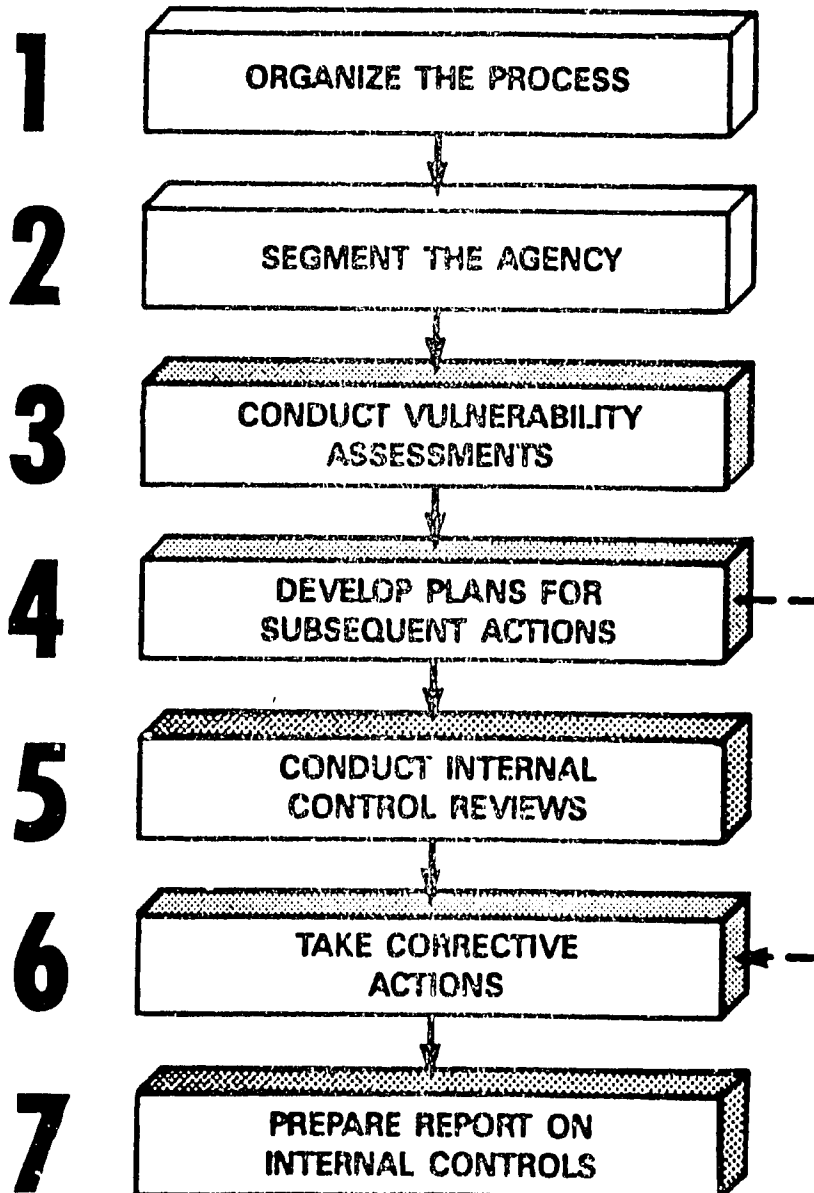
Every manager of an "assessable unit" in AID must ensure that steps 3 through 7 (the shaded blocks) are carried out for his/her area of responsibility.

This course deals with Step 5 - Conducting Internal Control Reviews

INTERNAL CONTROL REVIEW

An <u>Internal Control Review</u> is an <u>in-depth study</u> of some aspect of a program or function's work process in order to assess its <u>susceptibility to loss, damage or operational difficulties</u> due to:-

- Fraud - deliberate misrepresentation or dishonesty

- Waste - using more resources than necessary, or
            paying more for resources than necessary

- Abuse - misusing the resources available, or
            diverting the resources to improper/
            alternate uses - illegally or unethically

- Mismanagement - ineffective, inefficient or inappropriate use of
            resources to accomplish work objectives

The three major aspects studied are the:

- <u>Environment</u> the physical work setting, and people involved - do
  <u>they tend to</u> help or hinder effective control?

- <u>Tasks</u> the actual work performed by the unit/function and
  <u>various</u> personnel, and the risks involved.

- <u>Control System</u> the 'checks and balances' procedures in place
  <u>and operating</u>

Internal Control Review is <u>NOT confined to the FINANCIAL aspects</u> of a situation. It also encompasses the potential damage to a program as a result of adverse or unfavorable -

    - public perceptions (both U.S. and host country) [media]
    - special interests (including PVOs & Contractors)
    - host government reaction
    - other donor community attitudes
    - regional/international reaction

These are particularly important considerations for AID managers to keep in mind when conducting internal control reviews. Even though they are <u>inherently subjective</u> factors, they may outweigh any amount of monetary jeopardy. Thus a small dollar-value function could be assessed as "highly vulnerable" because of its other ramifications.

NOTE: A <u>Vulnerability Assessment</u> usually precedes a full Internal Control Review. For further details of that process, see AID's Procedures Manual on Vulnerability Assessment as well as DOD Self-Study Course Volumes I & II (Red & White Covers).

REVIEWING INTERNAL CONTROLS...   is a <u>nine</u> step process.

STEP 1: PLAN   THE REVIEW

STEP 2: REVIEW   THE VULNERABILITY

STEP 3: IDENTIFY   AND VERIFY   EVENT CYCLES

STEP 4: ESTABLISH   CONTROL OBJECTIVES

STEP 5: IDENTIFY   AND EVALUATE CONTROL TECHNIQUES

STEP 6: TEST   THE CONTROLS

STEP 7: MAKE   THE OVERALL EVALUATION

STEP 8: SELECT   CORRECTIVE ACTIONS

STEP 9: REPORT   THE RESULTS
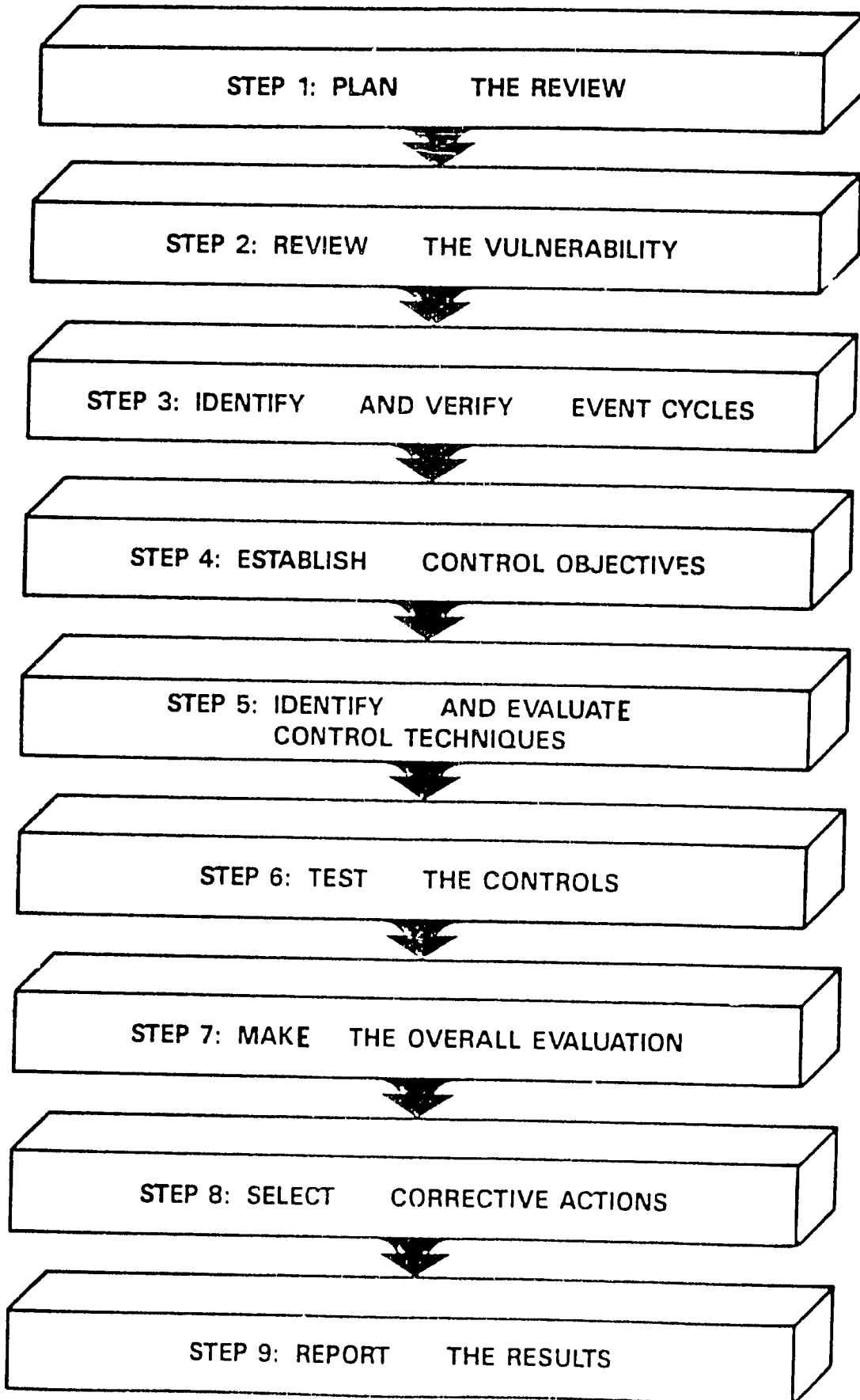
STEP 1. PLAN THE REVIEW

Internal Control Review Planning consists of three distinctive (and five interacting) steps:-

    A. Determine the Scope of the Study

        1. Who will be involved (and to what extent)

        2. What resources are available

        3. What results are expected

        4. What activities will be undertaken

        5. When will they be scheduled

    B. Obtain Background Information

    C. Make Logistical Arrangements

DETERMINE THE SCOPE

WHO WILL BE INVOLVED: Before initiating any Internal Control Review, managers should clearly establish their objectives for doing so, and ensure that others who will be involved in, and affected by the review are in general agreement. Major difficulties often result from neglecting this apparently obvious first step.

Internal Control Reviews are usually undertaken when it is suspected (or sometimes after it has been established) that a problem exists in, or with a particular work activity. Reviews attempt to clearly identify, and make recommendations to correct major problems encountered. To achieve objectivity as well as thoroughness, Internal Control Reviews should be conducted by a team with varying backgrounds and qualifications.

Most problem situations which give rise to Fraud, Waste and Abuse are created -- whether inadvertently and unknowingly (or occasionally, deliberately) -- by people interacting with others in the work environment. Identification of "Problems" (particularly by an 'outsider') usually triggers a defensive reaction on the part of the people involved and arouses their antagonism -- regardless of the facts and findings.

It is important therefore that the people affected by these recommendations both respect and accept them. First, they should respect the review as authoritative, meaningful, objective, valid, and as accurate as it can be under the prevailing circumstances. If they accept the review as worthwhile and effective (i.e. one which presents practical solutions and significant reduction in risk), the likelihood of the recommendations being adopted and its benefits realized will be significantly enhanced.

By concentrating only on the technical solution -- without giving due weight to the people' side of the problem -- the value of the entire review process is likely to be negated, and an excellent report may end up gathering dust for lack of acceptance at a critical level.

The actual number of people assigned to a conduct a particular Internal Control Review will vary. However the composition of the team should be more stable, and consist of individuals with some combination of:-

- strong personal interaction skills

- technical specialty knowledge in the subject under review

- accounting/financial management experience

- general management analysis skills

- familiarity with geographic/cultural situation

- professional writing skills

- administrative management ability

The team should also represent diverse organizational interests including both "insiders" and "outsiders".

Note: The terms outsider' and 'insider' should not be assumed to reflect different national organizations, but rather the degree of involvement with the on-going activity. In many project situations, AID works in a 'collaborative style' with its host-country counterparts and with contractors. Thus, in a particular situation, the 'insider' could be a USAID project officer, a Foreign Service National, a U.S. or local contractor and a host-government project manager. Similarly, the 'outsider' could be a USAID program officer, an AID/Washington desk or staff officer, an S&T or Regional Bureau technical specialist, an IQC contractor (US or locally hired) or a host-country ministry representative.

INSIDERS VS OUTSIDERS

Insiders and outsiders both serve useful functions, but each also have inherent weaknesses. Therefore, a good mix is desirable to offset each others disadvantages as much as possible.

Insiders

Advantages:
- familiar with program, staff, operations
- readily accessible
- little or no additional expense involved

Disadvantages:
- objectivity/candor questionable
- may be inhibited by usual organizational role protocols/national sensitivities
- other (current) work activity may suffer

Outsiders

Advantages:
- Greater likelihood of objectivity
- Often more familiar and experienced with other, similar situations
- Easier access to key decision-makers
- Available Full-time to conduct Review

Disadvantages:
- Creates Auditor/Inspector anxiety aura
- Unfamiliar with specifics of the situation
- Additional Expense
- Longer lead-time to get on-the-job
- No responsibility for implementation

In the final analysis, the manager cannot delegate the implementation of the recommendations and subsequent operations to an outside review team. Therefore he/she and the regular staff should participate in the substantive aspects of the Internal Control Review to the maximum extent possible.

RESULTS

WHAT RESULTS ARE EXPECTED: Managers often have expectations which differ from those of their staff, and management's ability to ask questions can always exceed any Review team's capacity to gather and appraise information. It is therefore important that such expectations are clarified at the outset, reviewed for priority and feasibility, and tailored on the basis of available resources. In this manner, the Review team's scope of work will not become unrealistic. Inflated demands and expectations only frustrate the Review team, and disappoint the manager.

ACTIVITIES

WHAT ACTIVITIES WILL BE UNDERTAKEN: Depending upon the composition of the team, the resources available to it, and the timing, an almost limitless number of review and investigatory activities could be undertaken. Selective observations and interviews, sample records checks and desk audits, design and development of model simulations and full-scale 'demonstration' field interventions for actual implementation all have their place, strengths and weaknesses. In any event, adequate time for preparation and presentation of the team's findings and recommendations (both in writing and oral debriefings) to appropriate management and staff levels should be included as a part of the review.

SCHEDULING

WHEN WILL THEY BE SCHEDULED: Most Internal Control Reviews are time-sensitive -- they need to be carried out as a 'project' within a specific period of time. The deadline for completing the overall study is usually set by management -- whether it is within three or four weeks, or several months away. In order to meet management deadlines, it is important that the team leader manage the Review like a project, by establishing detailed schedules for accomplishing each of the various tasks, and monitoring progress frequently. If this is not done, a common tendency is that too much time and effort is expended during the preliminary aspects of the study, necessitating either an extension of time for the total review, or else a superficial treatment of the final phases.

As can be seen from the foregoing, these planning elements are highly interactive - changes in one element generate changes in all the others.

STEP 2.   REVIEW THE VULNERABILITY

If a Vulnerability Assessment was previously completed, the first task of the Internal Control Review Team will be to review that assessment. When the manager who conducted the Vulnerability Assessment is still present, this process can be completed quite rapidly - fol! wing the original rationale and noting any changes which have occurred since it was undertaken.

When the same individual is no longer accessible, and/or when no one else familiar with the original assessment is available - or if that assessment is disputed by the current management (either because of different perceptions or changing circumstances) - another Vulnerability Assessment may be required.

Similarly, if one has not been conducted previously, a Vulnerability Assessment should be the first order of business, to determine the need for a more extensive Internal Control Review.

Since the Vulnerability Assessment process is described in great detail in AID's **Procedures Manual for VULNERABILITY ASSESSMENT** (April 1985), it will **not** be repeated here, except to remind you of the nine general control factors in the work environment to which you should direct your attention. (See pages 34 - 36 in AID's Procedures Manual for VULNERABILITY ASSESSMENT for details.)

1.   Organizational Structure

2.   Policies and Procedures

3.   Budgeting (& Planning)

4.   Delegation (of Responsibility & Authority)

5.   Personnel Practices

6.   Communication

7.   ADP

8.   Reporting

9.   Checks and Balances

In reviewing (or initiating) the Vulnerability Assessment, attention should be focused by the Internal Control Review Team on the basis for the assessment. The initial assessment was (or should have been) quite subjective, based on individual knowledge/assumptions about various factors. Now however, you should be looking for more quantitative evidence or generalizable opinion to support those judgements. It is particularly important to identify and record the **data sources**. Worksheet ICR 2.10 Documenting the Control Environment has been developed for this purpose.

BACKGROUND INFORMATION

Much valuable time and effort can be saved during an Internal Control Review if appropriate background information on the area under study can be gathered and made available to the review team for ready reference at the outset - instead of each individual having to research and rediscover 'the wheel' for him/her-self. The following is a list of suggested items:

- Prior Vulnerability Assessment of the management 'unit'

- Legislation (Foreign Assistance Act)

- Agency Policy Directives

- Handbooks

- Organization/function charts

- Mission guidebooks/manuals/standard operating procedures

- Annual Budget Submission (ABS)

- Country Development Strategy Statement (CDSS)

- Project Paper (PP)

- Pertinent audit reports (GAO and IG)

- Prior evaluation reports and studies

- Working documents:- Correspondence files and periodic reports, Log-books, financial reports, control registers, inventory records, etc.

- AID Staffing Pattern

- AID/Washington. Mission and Host Government Telephone Directories

- Local city and country Map

LOGISTICAL ARRANGEMENTS

The final aspect of planning an Internal Control Review is the logistics -- making telephone calls, writing and clearing cables, and processing PIO/Ts to obtain external assistance; following up with the various staff offices to confirm work scopes, access and availability of staff to meet with the review team, establishing work schedules and appointments, reserving hotel rooms, obtaining work space for the team, and arranging for internal travel clearances, and transportation.

Unless this is done adequately in the planning stage, valuable time will be lost and team resources wasted when the team arrives on site.

WORKSHEET #ICR 2.10
DOCUMENTING THE CONTROL ENVIRONMENT _____

FACTOR	SATISFACTORY?		COMMENTS	DATA SOURCES
	Yes	No		
Structure				
Policies/ Procedures				
Budgeting				
Delegation				
Personnel Practices				
Communication				
ADP Considerations				
Reporting				
Checks and Balances				

When the 'Risk Assessment' has been completed, the 'Maximum Acceptable Risk' should be reviewed and confirmed (or reestablished) with the current management staff. [Note: Since this is so highly subjective, a prior manager's 'acceptable risk level' should **never** be imposed on subsequent management.]

If the findings from the Vulnerability Assessment Review warrant continuance of an in-depth Internal Control Review, proceed with the study. Otherwise, you are quite justified in documenting the new findings, terminating further analysis, and reallocating the resources.

STEP 3. IDENTIFY AND VERIFY EVENT CYCLES

An Event Cycle' is a group of related activities within an overall work process, necessary to accomplish a particular objective. Such cycles are often time-bounded - that is, they are fixed processes which should be completed within specified time periods (such as payroll preparation and payment; completion of the Annual Budget Submission, or an overseas assignment).

Some Event Cycles, while they can be described in terms of process/sequence, have no definitive time associated with their accomplishment, but are merely a function of the resources and priorities accorded them, and take 'as long as they take'. (Preparation of a Project Identification Document or Project Paper; or a personnel cycle - being reassigned, or promoted, for example).

Any complex organization has numerous event cycles which interlock and overlap, reflecting both organization and functional approaches to work management at different levels of responsibility. In conducting an Internal Control Review, therefore, it is important to clearly delineate the particular segment to be studied, as well as its linkages with other parts of the organization, and the other participants who might be affected by changes in the process.

Internal Controls must be built in to the workflow process. They cannot be developed and reviewed independently. Therefore, before establishing controls over any functional activity, or attempting to evaluate effectiveness, you should have a clear understanding of the work process Event Cycle to be controlled.

APPROACH

1.   **INTERVIEW AND OBSERVE**: Most information is obtained by asking individuals doing the work, and observing them _at work_. Ask:-

        1. _What_ is the _purpose?_

        2. _Where_ should the step be done?

        3. _When_ should it be done?

        4. _Who_ should do it?

        5. _How_ should it be done?

        6. CHALLENGE EACH ANSWER WITH "WHY?"

2.   **REVIEW EACH STEP** for _four_ possible improvement opportunities:

    Eliminate - unnecessary/non-productive steps

    Combine   - merge several steps into one, and/or individual responsibilities for performing functions.

    Rearrange - resequence some of the steps, the workplace and/or the people.

    Simplify - improve method to reduce process time, distance travelled, number of personnel, or cost involved. Reduce accuracy requirements tolerances/specifications. Automate, or substitute machines for human labor.

3. **SCRUTINIZE THE INSPECTION STEPS.** Inspection steps are not the only ones in the event cycle where control techniques are found. However, by their very nature, they are of especial interest in an Internal Control Review. Therefore, focus on them to determine whether they are adequate, inadequate or excessive for the purpose intended.

- Are all major risk elements of work (i.e. operation steps) inspected?

- Is the point at which inspection occurs the most appropriate in the cycle? Is there a control inspection step

    - after a major work (operation) element?

    - before and after storage?

    - after a transportation, or a delay?

- Is the inspection efficient and effective in terms of time, cost and risk reduction?

- Is 100% verification done? Could statistical quality control procedures be utilized instead?

- Are control systems in place?

- Are they being used as intended?

- Is the working environment conducive to employee alertness during inspection?

4. **DOCUMENT THE RECOMMENDED IMPROVEMENT** for comparative purposes.

5. **SUMMARIZE THE NET ADVANTAGES** of the change.

INTERVIEWING / OBSERVATION GUIDANCE

Any 'facts' on procedures, obtained from documents should be verified with the people doing the work. Be receptive to new information, as well as differences of opinion. Things may not be done the same way now as they were originally described and intended.

Think through the situation and prepare a questionnaire. Whether you actually use it and complete it during the interview, or merely as a memory-jog, depends on the individual and the situation. Some people prefer an open-ended question/answer approach. In any event,

- Introduce yourself.

- Verify who you are speaking to.

- Explain the reason for the interview, and how it will be used.

- Tell him/her how long the interview is likely to take, and check when it will be convenient.

- Put the individual at ease.

- Check whether there is a suitable place to conduct the interview. (Privacy is often desirable.)

- Don't argue with the interviewee.

- If it is acceptable to the interviewee, take notes (or record conversation) in a non-threatening manner. (Many people become inhibited by note taking or tape recording, in which case you will have to make your notes by 'recall' as soon as possible, after the interview.)

- Don't jump to conclusions, or 'fill in the blanks' for the interviewee. Let them tell you what they mean, and how it fits together.

- Don't promise anything you can't deliver.

When observing work in progress,

- do not interfere with normal workflow

- take into acc⁻ ⁿt that you may have arrived at an 'exceptional' time -- a slack or busy period, break time, change of shift, etc.

- remember that your very presence makes the situation somewhat 'exceptional' - some people will put on a 'performance' for you -- good or bad!

- constantly cross-check your observations and information with others.

SUGGESTED INTERVIEW QUESTIONS

- What procedures are performed?

- What records does he/she keep under his/her control, including any 'unofficial' records devised for personal use?

- What documents (forms) are used, and what documents are prepared?

- From whom are documents received?

- What information is added on each document, and what is the source of the information?

- To whom are documents sent?

- What methods are used to check for errors, if any?

- What action is taken on errors?

- When was an error last discovered, and what was it?

- What happens during busy periods? Slack periods? When the unit is short-handed?

IDENTIFYING EVENT CYCLES

1. **Identify Major Groups of Actions**

   - What action <u>begins</u> the entire process?

   - What action <u>ends</u> the entire process?

   - What are the major groupings of actions between the beginning and ending points?

2. **Check Size/Scope of Event Cycles** to ensure that the the cycles are not too unwieldy or insignificant for analysis. Does the event cycle:

   - represent a significant outlay, or potential loss of resources?

   - have a meaningful beginning and end point.

   - have <u>many</u> significant products or actions?*

   - extend over more than six months?*

   (* If so, you may want to subdivide into more than one cycle.)

NOTE: There is no one correct answer to defining an event cycle. It is primarily a function of your logic, and your approach to analyzing a particular situation.

WORKFLOW PROCESS CHARTS

Workflow process charts may help clarify, describe, analyze and document Event Cycles. There are many different forms of workflow charts in use. The DOD Self-Study Course (Bluebook - Volume III [Text] pages 33 -42) outlines a format for logical work process identification -- usually associated with preparation for computer programming. Five other forms which also may be helpful are:

- **Operation Process Charts** - used by management analysts and industrial engineers to conceptualize and analyze work processes.

- **Operation Flow Charts** - used by management analysts to conceptualize and analyze documentation routing.

- **Plant Layout/Workflow Charts** - used by management analysts, architects, and industrial engineers to visualize and plan the physical characteristics of workflow.

- **Gantt/Milestone Charts** (Bar Charts) - used by managers for overall project design, scheduling, monitoring and reporting of relatively simple projects.

- **PERT/CPM Networks** - used by project managers for overall project design, scheduling and monitoring, of more complex projects.

The **Operation** Process Chart is probably the most useful technique for depicting event cycles. The **Operation Flow Chart** is particularly helpful in tracing work processes and the 'value added' by each office, or 'work station'. For Internal Control Purposes, I have combined the features of these two charts into a single **Operation Process/Flow Chart**.

The **Plant Layout/Workflow Chart** may also be helpful for making improvements in space utilization, and identifying suitable locations for physical security control checkpoints.

These two charting techniques will be described on the following pages. A summary discussion of Gantt/Milestone bar charts and PERT/CPM networks can be found in the AID Training & Development Division's November 1980 publication **DESIGN & EVALUATION OF AID-ASSISTED PROJECTS** (Blue Book), pages 115-125. A more complete description is in the December 1977 **TRAINING GUIDE FOR USAID PROJECT OPERATING SUPPORT SYSTEMS** (Orange Book), pages 22-72, also published by the AID Training Division. These have been widely utilized throughout the Agency, and distributed to overseas AID missions for reference. Hence, no further discussion is warranted here.

OPERATION PROCESS/FLOW CHARTING

An operation process/flow chart is a graphic representation of both the detailed **step** involved in accomplishing a task, and the individual (or organizational entity) responsible for performing it. Each step is categorized as being one of **five** types -- Operation, Transportation, Inspection, Storage, or Delay. Each type has a distinctive symbol.

Operation This is the primary work function. An operation is when something physical (i.e. a document, or other work) is created, modified, physically assembled, disassembled, or rearranged. It is also when information is given or received, or when planning, calculation, or discussion (i.e. a telephone conversation or a meeting) takes place. [Note: When a document is prepared in multiple copies, the disposition of each copy should be recorded as separate steps.]

Transportation is the physical movement of either the material or the worker to or from one work station position, or location, to another. [The movement of materials by the worker performing a creative operation is usually not treated as transportation of the material, but rather considered as a necessary part of the operation.]

Inspection occurs when an item is screened or checked for identification, verified, reviewed, or examined for quality or quantity, but is not changed (i.e. added to or modified) in any way.

Storage is when something is put in a particular location, or filed -- i.e. not being worked on in a regular process -- after an operation, transportation or inspection, awaiting further action. Storage may be temporary or permanent, whether formally protected against any unauthorized removal, or simply left unattended. Disposal -- for either ultimate end use implementation, or destruction, is also classified as 'Storage' for this analysis.

Delay is when conditions either do not permit, or do not require, immediate performance of the next planned action. (Delay is distinguished from Storage in that storage implies intent to suspend further processing action on a physical process until required, whereas delay usually represents unintentional, or unavoidable waiting before an action can continue.)

The general effect of these processes is summarized as follows:-

Symbol	Classification	Operational Effect
O	OPERATION	Creating or Accomplishing something
➡	TRANSPORTATION	Moving
▢	INSPECTION	Checking
△	STORAGE	Holding
X	DELAY	Stopping/Impeding further effort

In addition to depicting each work step sequentially (by type) on a separate row, the process/flow chart also identifies each individual (or organizational work unit) involved in the process, in a separate column. Other refinements are to add 'quantity' 'time' and 'cost' involved for each of the five functions, as well as 'physical distance moved' for the transportation category.

Step No.	OPERATION PROCESS/FLOW CHART for	Operation	Transportation	Inspection	Storage	Delay	Distance	Time	Cost	Quantity	Work Stations Involved							
#	Description of Step	O	➤	▣	▲	X												
	TOTALS	O	➤	▣	▲	X												

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OPERATION PROCESS/FLOW CHART for

THE CONTRACTING PROCESS: This is illustrative only – not a completely detailed and/or accurate outline of the Cycle.

Step No.	Description of Step	Operation (O)	Transportation (→)	Inspection (□)	Storage (△)	Delay (X)	Distance N/A	Time Days	Cost N/A	Quantity N/A	USAID Agriculture Project Officer (AgPO)	USAID Program Officer (PROG)	USAID Controller (CONT)	AID/W Office of Contracts (SERCM)	US Depart of Commerce (COMBO)	Potential Contractors (CTR)	AID/W Desk & Tech Offices (BUREAU TECH O)
1.	Prepare PIO/T, Scope of Work, Budget, & Evaluation Criteria							10									
2.	Review and Approve							5									
3.	Earmark Reservation of Funds							1									
4.	Send to AID/W							30									
5.	Prepare RFP and CBD Advert.							6									
6.	Mail to Commerce Department							3									
7.	Run Advertisement in CBD							5									
8.	Request RFP and other info.							5									
9.	Mail RFP and background info.							5									
10.	Prepare Proposal							30									
11.	Mail Proposal to AID/W SER/CM							5									
12.	Hold Proposals 'til Open Date							(5)									
13.	Separate Technical & Cost Proposals; make copies							1									
14.	Review Proposals - Responsive?							1									
15.	Technical Review/Rank Order							10									
16.	Evaluate Cost Proposals							2									
17.	Negotiate with Contractor							5									
18.	Award Contract							1									
19.	Mobilize personnel, and deploy overseas - to start work.							30									
19	**TOTALS**	11	5	2	1	–		160			2	1	1	8	1	4	2

ANALYSIS OF OPERATION PROCESS/FLOW CHARTS

When the overall operation has been charted in this manner, the nature of the Event Cycle and its susceptibility to Fraud, Waste, Abuse, and particularly **Mismanagement** is relatively easy to analyze. For example, the

- total number of steps involved

- excessively refined steps, and opportunities for combining steps (Job Enlargement)

- redundant, overlapping or duplicative steps

- value of 'work added' at each step

- total time of the overall Event Cycle

- relative percentage of each step type

- quantity of 'items' created

- distance travelled, and time involved

- excessive backtracking of work-flow

- number of delays, and time involved

- number of inspections, sequence and timing

- estimated cost of each step (if possible to compute)

all provide clues for spotting weaknesses, excesses and opportunities for improvement.


In addition, ask yourself (and others)

- What **should** be happening in this cycle?

- What can go wrong at each step?

- What controls are in place?

- Are they working?

- Where should additional controls be installed?

- What additional control techniques could improve the internal control and reduce the risk in this event cycle?

THE PLANT LAYOUT/FLOW CHART

The Plant Layout/Flow Chart is a graphic representation of both the physical work space and the movement of work elements through the area. Depending upon the scale and scope of the event cycle, this may vary -- from a detailed sketch of an office with desks, file cabinets, etc., to a depiction of intercontinental document flows from a USAID to AID/W, and return.

The value of this type of chart is its ability to highlight traffic flow patterns, space utilization, the expenditure of time and effort, and (for micro space layout) potential traffic congestion points. Particular note should be made of any apparently excessive transportation activity due to routing patterns, and backtracking.

LAYOUT AND FLOW DIAGRAM
PUT THE PROBLEM ON PAPER—SHOW LINES OF FLOW
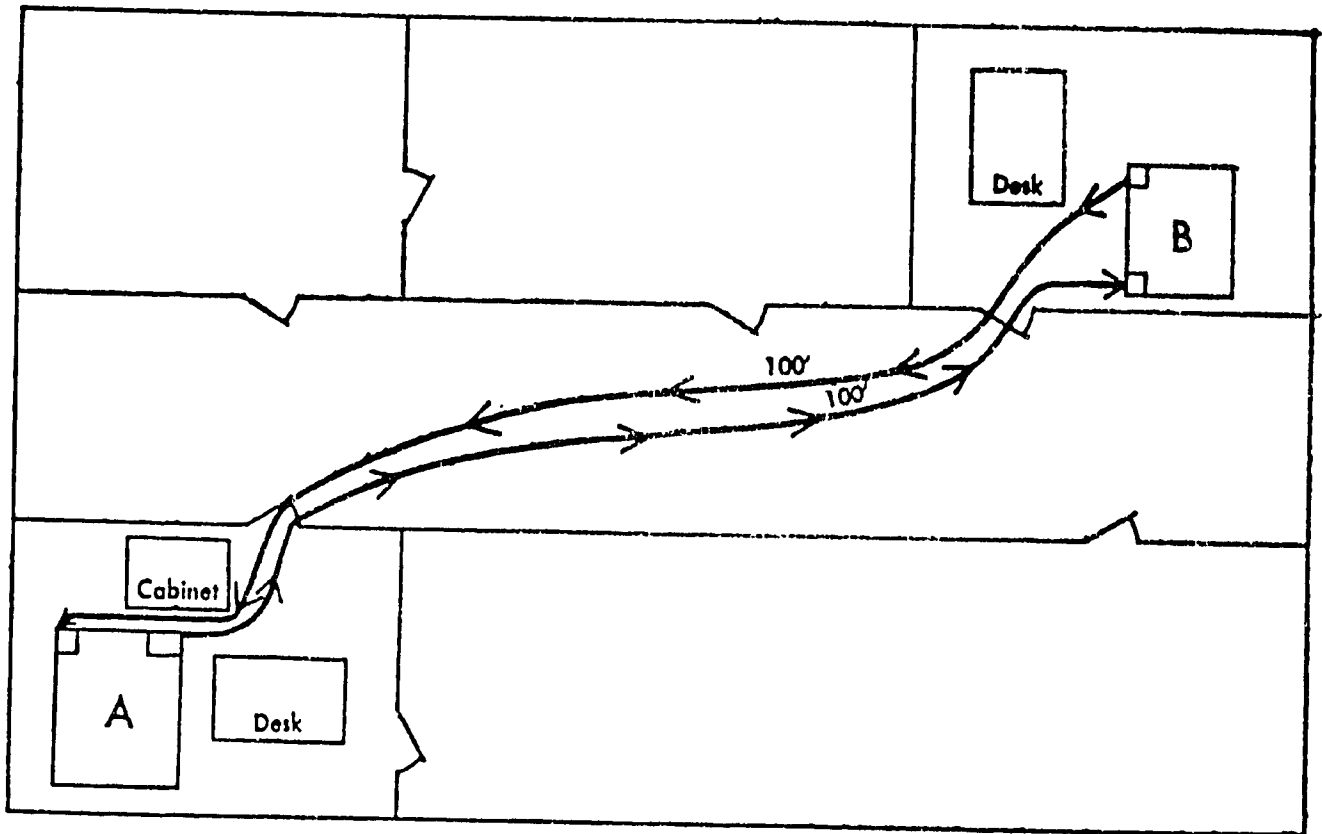
In this type of chart, the physical dimensions of the workspace and the key elements of work equipment are highlighted, as well as the traffic pattern and distances travelled for a particular work activity.

Alternative layouts can be suggested and tested for effect.

Often a two dimensional 'cut-out' model is useful, and occasionally even a three dimensional 'building block' or 'scale' model is necessary for effective analysis.

Questions raised by the chart are:-

Operations:

● Could some operations be better performed simultaneously rather than sequentially?

● Is time more important than cost in this event cycle?
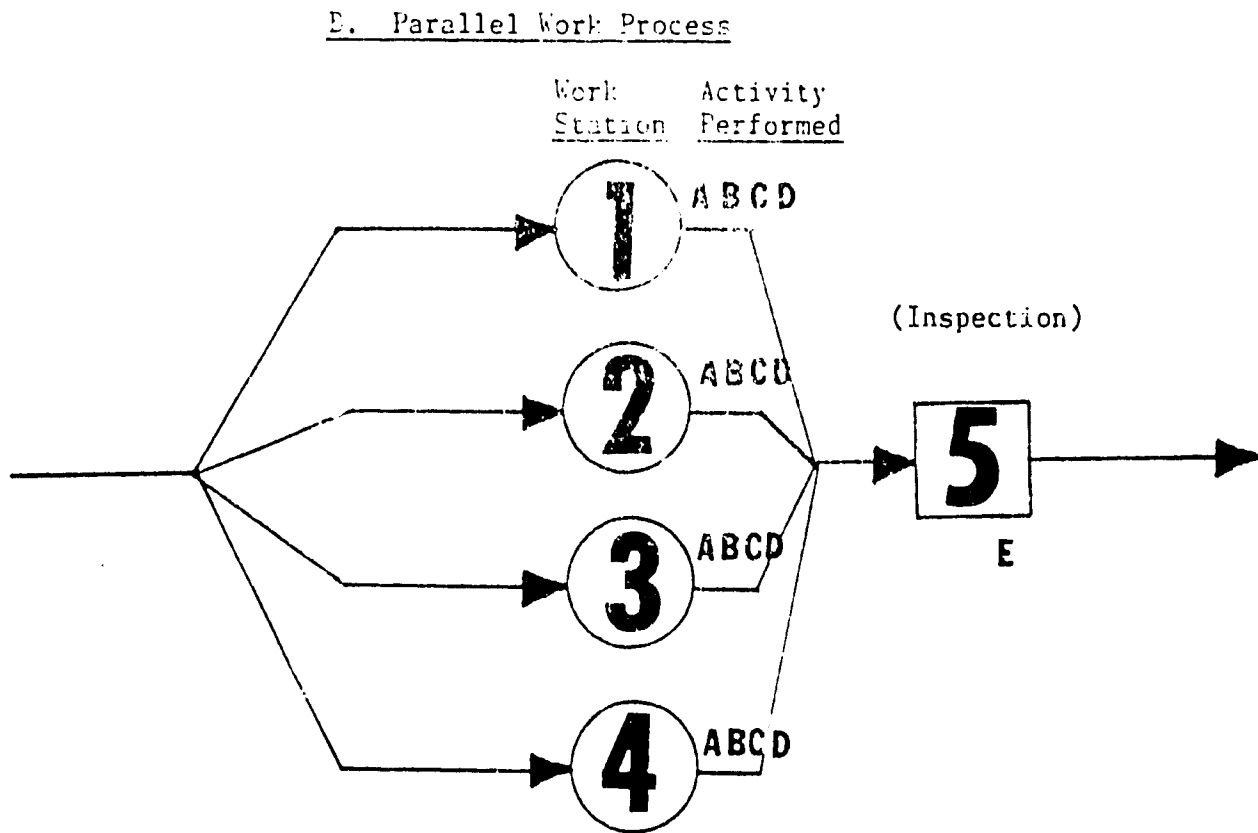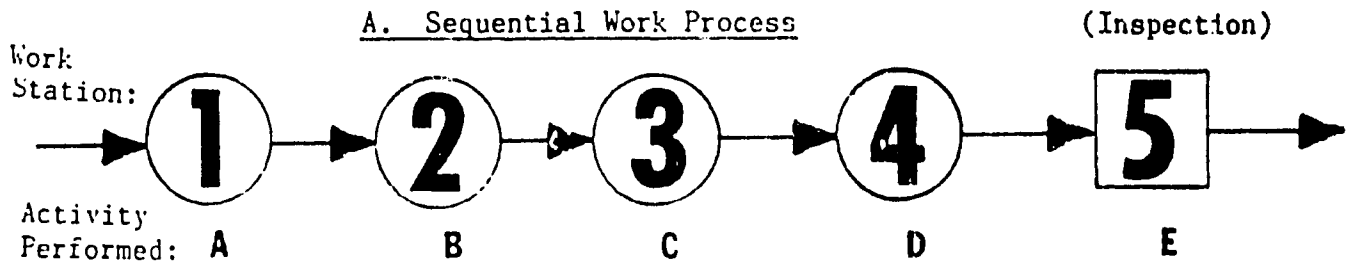
Transportation:

● Is every trip necessary? Can any be eliminated?

● Can the total distance be reduced?

● Can the total time be reduced?

● Does the layout permit short moves and delivery of materials convenient to the worker?

● Are the traffic flow congestion points a constant problem, or only at 'peak' times?

Storage:

● Is the storage area located in the most convenient location available?

● Is the storage area adequate?

● Are work materials/transaction records accessible to unauthorized individuals without detection.

● Can the storage area be rearranged to reduce congestion? Overhead storage?

● Is excessive handling required?

● Is original packaging of products suitable, or is repackaging necessary?

● Is packaging/repackaging excessive?

● Is mechanical materials-handling equipment used?

SAFETY AND SECURITY: Is the overall layout and workflow safe for workers, and protected against intruders?

THE PLANT LAYOUT/FLOW CHART
ANOTHER VARIATION

A. Sequential Work Process

(Inspection)

Work
Station:

① ② ③ ④ ⑤

Activity
Performed: A   B   C   D   E

B. Parallel Work Process

Work   Activity
Station Performed

① ABCD

② ABCD

③ ABCD

④ ABCD

(Inspection)

⑤

E

In **sequential processing**, if **any** work station slows down (or the individual is absent) the entire process is delayed. Each station performs different skills and is usually very **efficient**, but transportation and delay potential is high. [Sequential processing is good for Internal Control purposes because the separation of functions is clear.] In **parallel processing**, the same work is performed at each station. This provides greater flexibility, since work can be diverted to any station if one is slow, or closed for the day. Parallel processing is generally more effective, and satisfying to the worker, but has a potentially higher risk. The inspection function could become more of a bottleneck, even without an increase in workload. You might try another workflow:- **three** Operations with **two** Inspection stations.

DOCUMENT THE REVIEW PROCESS USED AND YOUR FINDINGS

- Use worksheet ICR 3.2 and 3.3 to supplement your flow charts, and record/summarize the action taken.

- Describe the processes and data sources used to identify and verify event cycles and steps.

- Outline your findings, conclusions and recommendations.

SUMMARY THOUGHTS ON FLOW-CHARTING EVENT CYCLES

Things are usually the way they are for sound reasons, if one but knew the background. However, complacency with the status quo does not usually resolve current operational problems.

In any work situation, opportunity almost always exists for improvement. To improve a process, however, it must be approached with a positive attitude that improvement is indeed possible. This does not mean that any change is desirable, or indeed that every possible improvement should be implemented.

Work situations are highly dependent upon individuals, not standard operating procedures -- despite the desires of management, and handbook writers! When the individuals responsible for performing a function change, elements of the work routine are also modified by their successors. The reason for doing things in a particular manner may be forgotten, and the practice varied to suit newer perceptions. Other practices may persist, despite their obsolescence. In an organizational environment such as AID, there.ore, where personnel transfer and work rotation is the general policy, 'periodic maintenance' of "routine" work procedures is necessary to maintain a modicum of effectiveness and efficiency.

Flow charts and check lists, such as those described on the preceding pages, are useful tools for analyzing work operations and event cycles. They are designed to highlight the most likely aspects of operations where improvements can be effected.

No chart -- passively applied -- can substitute for knowledge, experience, logic, or creativity. Nevertheless, experience alone will generally not provide the comprehensive perspective afforded by the charts. Much of what will be recorded on the charts is already known by most, but the impact of plotting it all in one place should usually furnishes additional insights which are the meat of systems analysts. Any analyst who follows a systematic procedure is likely to accomplish greater results than one who works purely from intuition and preconceptions based on prior experience.

Progress begins with a questioning attitude -- even when the answer appears obvious. Analyze what is being done, and why. Then explore whether it can be done better -- more effectively and/or more efficiently.

WORKSHEET #ICR 3.2
RECORDING STEPS USING NARRATIVE APPROACH

STEP	RESPONSIBILITY	DOCUMENTS	RECIPIENT	REFERENCE

STEP 4. ESTABLISH CONTROL OBJECTIVES

Objectives are behavioral targets for improving a good situation, or ameliorating a poor one. The next task is to establish <u>control objectives</u> for each event cycle.

Control Objectives are thus bench-marks to help identify and evaluate our internal control systems. When control objectives are met, then the control system is presumed to be operating effectively (and we try to make it more efficient without losing effectiveness). When control objectives are not attained, the control system is not functioning effectively and it needs to be be rectified as the first order of business. (Efficiency without effectiveness is useless.)

Control Objectives are established after an appraisal of the work situation, as follows:-

1. <u>Identify the specific risks</u> in the event cycle

   ● What could go wrong? (Invoking Murphy's Laws.)

   ● What would be the damage if it did?

   Then

2. <u>Develop a tentative 'fix'</u> for the potentially <u>major</u> problems. Bear in mind that

   ● Some problem situations may not be remedial.

   ● Some risk situations may be tolerable.

   ● Some solutions may not be cost/effective.

   ● Other solutions may not be practical at this time, because of resource, or personality constraints, or for political reasons.

Control Objectives should describe an ideal work situation -- i.e. as it would exist if complete success was achieved in controlling loss due to Fraud, Waste, Abuse and Mismanagement.

In short, the Control Objective is to eliminate (or at least reduce) the potential risk.

   <u>Use Worksheet ICR 4.1 to document the risks and associated control objectives in the event cycle.</u>

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FUNCTION: _____   *EVENT CYCLE:* _____

| 1 | INDICATE LOCATION OF NARRATIVE/FLOW CHART |

_____

_____

| 2 | DESCRIBE PROCESSES USED TO IDENTIFY/VERIFY EVENT CYCLES |

• *Documents Reviewed*

TITLE	CODE/NUMBER
_____	_____
_____	_____
_____	_____
_____	_____

• *Interviews Conducted*

NAME	TITLE	DATE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

• *Observations Conducted*

STEPS OBSERVED	WHO DID THE STEP?	DATE
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

PROGRAM/FUNCTION: _____   *EVENT CYCLE:* _____

RISKS	CONTROL OBJECTIVES

✓ *CHECK STEPS:*   Are the objectives . . .

☐ Clearly written?
☐ Complete?
☐ Appropriate?
☐ Logical?

STEP 5. IDENTIFY AND EVALUATE CONTROL TECHNIQUES

A Control Technique is any method:-

whether physical barrier,

mechanism

or administrative procedure

used to **prevent** or **detect risks.**

Some controls -- particularly physical, mechanical, and electronic ones such as walls, fences, guards, patrol dogs, video-scan cameras, locks, and electronic alarms -- are usually expensive, increasingly more sophisticated, and very apparent.

Other controls -- particularly administrative ones such as security clearances, identification badges, passwords, serial numbers, visitors registers, or receipts -- are quite mundane, and so obvious we tend to ignore their presence or the potential impact if ignored or circumvented. Usually, they are not called controls, and sometimes they are not used to control, but are routinely accepted (or tolerated) as just bureaucratic 'administrivia'.

It is important to recognize that the mere existence of a control technique, or the number of control techniques in a system, does not of itself provide security.

A control objective may be met by a single control technique, or a combination of techniques. The critical factor is not the number, nor the sophistication, but the ability of the control technique utilized to meet the control objectives.

Control objectives should be clearly identified for every event cycle.

The General Accounting Office (GAO) has developed specific standards for internal controls, which have been endorsed by the Office of Management and Budget (OMB) for application in the Federal Government. These standards were presented in the earlier Vulnerability Assessment manual, but are also summarized here for convenience in referencing.

GAO STANDARDS FOR CONTROL TECHNIQUES

CATEGORY	EXPLANATION	STANDARD
DOCUMENTATION	Written descriptions of - control objectives - control techniques - workflow procedures - other management activities	Complete, accurate and available for examination
RECORDS	Written descriptions of transactions - resources expended - approvals - results	Kept up-to-date on all aspects of the event. Easily accessible for report writing and review/audit.
AUTHORIZATION	Implement transactions within limits - approve/deny - expend resources	Make decisions, and implement work assignments
STRUCTURE	Separation of functions - authorizing - processing - recording - reviewing	Separate key duties and responsibilities among individuals

SUPERVISION	Assignment, review and approval of work.	System must exist to
		- assign work
		- review work
		- approve work
		- provide guidance and training to
		  + reduce loss of resources
		  + increase productivity

SECURITY	Limit access to Government resources - funds - inventory - information - facilities - equipment	System must exist to reduce risk of unauthorized use or loss by: - restricting access - accountability for custody and use - periodic review

SOME COMMON CONTROL TECHNIQUES

DOCUMENTATION
- Operating/Financial Plans
- Organizational Charts/Job Descriptions
- Handbooks, Office Instructions, SOPs

RECORDS
- Progress Reports
- Inventory Systems
- Program Budgets
- Financial vouchers
- Logs/Checklists
- Correspondence Files
- Memos 'For the Record'

AUTHORIZATION
- Written Chain of Command
- Written Policies and Procedures
- Written Confirmation of Approval of Orders, Work Assignments and Changes

STRUCTURE
- Different individuals assigned to key duties. (note: frequently violated by 'Two Hats' practice, as well as dual incumbency due to personnel shortages.)
- Periodic Reviews/Audits
- Impartial Investigations
- Assignment of Alternates

SUPERVISION
- Performance Standards/Evaluation
- Training of Employees
- Review of Work - scheduled and random
- Reconciliation, Checking and Inspection of work
- Periodic Evaluation of overall System and Procedures

SECURITY
- Controlled Custody and Prenumbering of Critical Equipment and Documents
  - signature stamps
  - purchase order authorizations
  - blank checks
  - identification/access passes, badges
  - 'portable' machinery - typewriters, computers, calculators, video-equipment
- Access Restrictions
  - security classifications
  - badges, passes
  - passwords
  - sign-in logs
  - signs: 'DO NOT ENTER' 'RESTRICTED' 'OFF LIMITS'
- Physical Barriers
  - fences, barriers
  - locked doors, safes
- Detection/Prevention Devices
  - sensors, alarms
  - video-scanners
  - security guards
- Decentralization/Dispersal
  - alternate operational sites
  - off-site Backup Storage (for critical materials)

Use Worksheet ICR 5.1 to identify the specific Control Techniques in use

FUNCTION: _____   *EVENT CYCLE:* _____

TYPE OF CONTROL

CONTROL OBJECTIVE	DOCUMENTATION	RECORDS	AUTHORIZATION	STRUCTURE	SUPERVISION	SECURITY	OTHER	SPECIFIC TECHNIQUE

ASSESSING CONTROL TECHNIQUES

In assessing a control technique, your standard should be that it provides "reasonable assurance" (from a theoretical 'paper' review) that the control objectives and GAO standards are met.

Criteria: Four basic criteria for assessing control techniques of an event cycle are:

1. **Effective**
   - meets the desired control objective
   - provides appropriate sampling of activities /transactions in the step
   - operates at appropriate times

2. **Comprehensive**
   - the entire event cycle is under control, to the extent desired, by one or more techniques.

3. **Consistent**
   - the quality of the various techniques used is uniformly effective in meeting objectives

4. **Efficient**
   - The techniques accomplish the control objectives within constraints of cost-benefit and risk.

Review the Operation Process/Flow Chart, the Plant Layout/Flow Chart, and any other available information at hand to make your assessment.

After completing an assessment, **for each control objective**, you should reach one of three conclusions; namely, that the control technique appears to be:-

- **Adequate.** (It should be **tested** however to be sure.)

- **Inadequate**, and improvements should be made.

- **Unnecessary**, and can be safely eliminated.

Use Worksheet ICR 5.2 to **evaluate** the control techniques.

WORKSHEET #ICR 5.2
DOCUMENTING EXISTING CONTROLS

FUNCTION: _____ *EVENT CYCLE:* _____

CONTROL OBJECTIVES	CONTROL TECHNIQUES	STRONG	WEAK	EXCESS	COMMENTS

OVERALL EVALUATION: The overall mixture of control techniques for this event cycle is:
         ☐ STRONG   ☐ WEAK   ☐ EXCESSIVE

SAMPLE of Completed Worksheet (Partial Only)

ICR 5.2

Project Payment System

Control Objectives	Control Techniques	Assessment	Comments
1. Payments should only be made against a valid contract and in accordance with contract provisions.	a. Contract is checked against invoice to ensure that invoice can be paid and contract has not expired.	Strong in principle - moderate to weak in practice because the records are not always up to date.	i. FM records are not always complete and up-to-date e.g. amendments to all copies of contracts may not be in FM files.
	b. Invoice details are compared to items allowable under contract provisions and any items that do not conform are disallowed for cost reimbursable contracts.	Strong in principle - weak in practice. Review performed by GOE who do not always have a perfect understanding of the principles underlying the review. Invoice detail received by USAID is usually insufficient.	ii. For Bank L./Comms, AID has no control over the extent of the review performed. Direct L./Comm detail is frequently insufficient.
	c. Contractor performance is compared to the requirements of the contract and payment is only made when the contractor has fulfilled these requirements.	Strong in principle. Weak in practice especially when project sites are remote or invoice detail insufficient.	iii. For remote project sites or T/A, it is sometimes difficult to determine whether contract requirements have been met.
2. Payments should be made for services rendered or goods delivered.	a. Contractor invoices are referred to parties knowledgeable about project execution so that performance or delivery can be verified.	Strong in principle. Weak in practice (See 1c above)	i. (See 1.iii above)
	b. Payments are not made unless contractor performance or receipt of goods has been verified and certified by designated personnel.	Strong in principle. Weak when designated personnel do not frequently visit project sites or when contractors invoke 30 day clause.	ii. AID personnel are rotated to post generally on a 2 year cycle. This turnover results in project officers who are not always familiar with the project for which they are responsible.
	c. Personnel who are designated to verify contractor performance on delivery are familiar with the current status of project implementation and are able to independently evaluate the contractor.	Strong in principle. Is strong when project officers visit site frequently and are knowledgeable about the project. Tends to be moderate to weak when project officers rotate or when project sites are multiple or remote.	iii. If project officers are absent from post or if GOE review is lengthy, payment must sometimes be made without all necessary approvals.
			iv. Project officer workload can sometimes be so heavy that knowledge of individual contractors and the approval process can be limited.

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IF CONTROLS APPEAR	THEN
UNNECESSARY	consider eliminating them
INADEQUATE	check for compensating controls*
	modify (combine, rearrange, strengthen)
	- change the work environment
	- add additional techniques
ADEQUATE	test their actual effectiveness

* Sometimes a control technique appears to be weak or not operating, but personnel may be compensating for the system's shortcomings by using some improvised (but usually undocumented) informal control mechanisms. If such is the case, assess whether these informal controls are adequate. If so, they should be documented and incorporated into the formal system. Otherwise -- if they are still weak, or excessive -- they should be considered in any formal modification.

STEP 6. TEST THE CONTROLS

Testing the controls means checking their performance under operating conditions to ensure that they actually work as expected and required. Remember, the mere physical existence of an installed control technique does not assure that it is performing a control function.

Some control techniques are easier to test than others. However, all supposedly effective operational controls should be tested periodically, not just the easily accessible ones. Otherwise you may only enjoy a false sense of security -- until it is too late, disaster strikes, and the damage is done!

TESTING METHODS

It is unrealistic to attempt to observe every instance of every control in use, or to review 100% of the control records available. Instead, some aspects of each of the controls are observed, and a representative sampling of the records examined closely.

The following methods (or combinations of methods) are acceptable.

- Document Analysis: Review existing records, files, forms, log-books, registers, completed forms, cr other documentation.

- Observation: Passively watch the performance of some individuals in the system at each step, at various times, and note compliance or deviation from written procedures.

- Walk-Through: Initiate (or select) a typical case transaction, and follow it through from beginning to end.

- Interview: Visit work sites, and talk with several people who work in the general environment, as well as those who perform the control functions, to elicit their opinions and suggestions.

- Agent Provocateur: Attempt to 'beat the system' (either yourself, or through an anonymous accomplice), to determine whether the system detects and reports the situation.

- Survey: Written questionnaire, to poll individuals who have had experience with the event cycle, to solicit data and comments.

A NOTE ON SAMPLING

In almost all instances where testing is undertaken, only a small portion of the total transaction activities in an event cycle are actually examined in any depth. This practice is known as sampling. All samples are not equal however. There is a right way and a wrong way to select them. Indeed, an improperly drawn 'judgement sample' may introduce so much bias, room for misinterpretation and error, that it is more misleading than it is worth.

Although sampling is (by definition) an incomplete view of a situation, the accuracy (and probable error) of a properly drawn sample can be estimated statistically and thus provide valuable information for making management decisions. Used in conjunction with other data collection tools, such as:

- Observation logs

- Frequency tabulations

- Work distribution matrices

- Checklists, and

- Interview guides

statistical sampling can be a very powerful method for examining the efficacy of control techniques.

Statistical sampling is based upon:

- Randomization selection of items from a given population so that each item has an equal chance of being selected. (Constantly beware of bias.)

- Variability in the population under study

- Error that will be tolerated in the findings

- Confidence desired when presenting the findings, that the data is accurate to the degree indicated

- Resources available to obtain the data, conduct the study, process and report the findings

Time, money and effort can be wasted if a sample is either larger or smaller than required to meet the specified needs of management. More samples than is required wastes resources, while fewer samples than necessary not only wastes resources but also gives results with less than the required reliability.

Two popular (but erroneous) conceptions should be noted:

1. A large sample should be taken from a large population, and a small sample from a small population.

2. A sample should be some percentage (say 5% or 10%) of the population under study.

Neither of the above statements is correct! The size of the population under study is a minor factor in determining sample size; while the actual numerical size of a sample is much more important than a percentage in estimating reliability of results.

Variability is a measure of dispersion -- in effect the opposite of a "mean" which is a measure of central tendency. The "Standard Deviation" is a commonly used indicator of variability, and is calculated from the following formula:

$$D = \sqrt{\frac{\sum d^2}{n}}$$

Where

D = Standard Deviation

$\sum d^2$ = Sum of squared differences from the mean

n = Number of items in the group

This is cumbersome to calculate, unless you have a computerized statistical program available. A more expedient (but less accurate) method for assessing variability is to use one-sixth of the estimated range, based on historical data, experience in similar situations, or local 'expert' opinion. In general, the greater the variability in the population under study, the larger the sample should be.

Confidence is expressed as a measure of "Standard Error". It is never possible to be 100% accurate when dealing with samples, but by increasing the sample size, the level of confidence can be increased. "Standard Error" quantifies this concept. Some selected values of Standard Error -- which I have termed 'K' for our purposes -- and the relative levels of confidence, as percentages and 'odds' are shown below:

Selected Values of K (Standard Error)*	CONFIDENCE	
	as a Percentage (%)	as Numerical 'odds'
1	68.26	2:1
2	95.44	20:1
3	99.74	369:1

*Other values of "K" and their related confidence levels can be determined from standard statistical tables. Generally, however, it is not usually necessary to have a higher value for "K" than "2".

FORMULAE FOR ESTIMATING SAMPLE SIZE

To determine the appropriate sample size for estimating a 'mean', use the following formula:

$$S = \frac{D^2}{\left(\frac{E}{K}\right)^2}$$

Where

S = Optimum sample size

D = Standard Deviation of data in the population

E = Size of the mean error that management will tolerate

K = Confidence with which you wish to present the findings

To determine the appropriate sample size for estimating a percentage, use the following formula:

$$S = \frac{(100 - P) \times P}{\left(\frac{E}{K}\right)^2}$$

Where

S = Optimum sample size

100 = Constant (One Hundred) in all equations

P = Preliminary estimated percentage

E = Size of the percentage error that management will tolerate

K = Confidence with which you wish to present the findings

Practically, you should increase the actual sample size over the optimum, to protect against possible error in estimating the standard deviation or the percentage, and to allow for some non-response in data gathering, errors in compiling data, and other loss due to inaccessibility, etc. Additional samples will increase the reliability of the estimate, while fewer samples than specified will lessen the reliability and perhaps fail to meet management's requirements.

These, and other detailed aspects of sampling procedures are outlined in Applied Survey Methods for Development Projects, published by the Agency's Training & Development Division, September 1931.

Statistical sampling can seem quite complex to the uninitiated, and the non-mathematically inclined. Therefore, if you need help, seek assistance.

DOCUMENT THE TEST

For the Record: File the worksheets and working papers of your assessment -- both of the process, and the results:

- **WHO** conducted the tests
  was observed
  was interviewed

- **WHAT** was studied
  was collected
  were the results

- **WHEN** was the study done

- **WHERE** was the study done
  is the background material

Use Worksheets ICR 6.1, 6.2 and 6.3 to document your Test Plan/Rationale

FUNCTION: _____   *EVENT CYCLE:* _____

TEST METHODS

CONTROLS	DOCUMENT ANALYSIS	OBSERVATION	INTERVIEW	OTHER	SAMPLE PLAN/RATIONALE

WORKSHEET #ICR 6.2
DOCUMENTING THE TEST RESULTS _____

FUNCTION: _____ *EVENT CYCLE:* _____

	1. RATE TECHNIQUES			2. IF STRONG, INDICATE STANDARD MET						
CONTROL TECHNIQUES	WEAK	EXCESSIVE	STRONG	DOCUMENTATION	RECORDS	AUTHORIZATION	STRUCTURE	SUPERVISION	SECURITY	**COMMENTS**

⤶ CHECK STEP:
- Are there any compensating control techniques used?　☐ YES　☐ NO
  If YES . . .
- Have you included these techniques in the above list?

OVERALL ASSESSMENT:　Are control techniques effective and efficient in accomplishing the control objectives?
☐ YES　☐ NO

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CHECK YOUR FILES...

	YES	NO
WHO		
• Are the persons who conducted the tests listed?	☐	☐
• Are the persons who were observed listed?	☐	☐
• Are the persons who were interviewed listed?	☐	☐
WHAT		
• Is the rationale or reason for your test design described?	☐	☐
• Is there a description of what items were reviewed (e.g., document numbers, logs, etc.)?	☐	☐
• Is there a description of what information was collected during the interviews?	☐	☐
• Is there a description of the informal controls used to compensate for nonexistent or weak controls?	☐	☐
• Is there a description of the test results?	☐	☐
WHEN		
• Is the testing schedule included in the file?	☐	☐
WHERE		
• Are the testing locations included in the file?	☐	☐
DOCUMENT EVIDENCE		
• Are copies of documents or other physical evidence retained in the file?	☐	☐
If NO...Is there a list indicating the location of the supporting documents?	☐	☐

STEP 7. MAKE THE OVERALL EVALUATION

When you have reviewed the

- Work Environment

- Event Cycles

- Control Objectives, and

- Control Techniques

you are ready to make an overall judgement about the system.

This judgement should be made using the GAO's General Standards for Internal Control.

GAO GENERAL STANDARDS:

There are five general standards which are the key ingredients of an effective control system. In addition to the specific control objectives and techniques already discussed, these are:

- Reasonable Assurance that you are aware of the risks involved, and that adequate measures have been taken to guard against these risks. [Note: the cost of internal controls should not exceed the benefits derived from them.]

- Supportive Attitude by management, staff and line workers in both words and actions.
    - Resources provided to develop, maintain and evaluate internal controls
    - Positive reinforcement of individuals involved in internal controls
    - Acting upon information developed through internal controls, reviews, audits, evaluations

- Competent Personnel This includes not only the individuals involved in the work process, but also the Personnel System for:-
    - Selecting, and Assigning people to jobs
    - Training (In-service Training, and Professional Development)
    - Incentives, Promotions, Rewards and Discipline

No work situation is ever perfect all the time, in all respects. There are highs and lows periodically in every situation. Furthermore, no matter how good they are, control techniques will not work in a vacuum. Therefore, after you have reviewed the component parts of the event cycles and the environment in which they operate, you need to take stock of the overall situation and reach a balanced conclusion as to their effectiveness.

Worksheets ICR 7.1 through 7.6 document and summarize your assessments for each of the general standards.

STANDARD: CONTROL TECHNIQUES

Explanation: This standard requires that the control techniques be effective and efficient. This standard recognizes that the cost of a control technique should *not* exceed the potential benefit or risk reduction.

Information Sources: To judge compliance with the control techniques standard, review the results of the "on-paper" evaluation made during Step 5 and the test results generated during Step 6.

Compliance Test:

	COMPLIANCE QUESTIONS	YES	NO	IF NO...DESCRIBE IMPORTANT WEAKNESSES

C O N T R O L T E C H N I Q U E S	• *UTILIZATION:*
	  • Are prescribed controls used?
	  • If compensating controls are used, are they adequate?
	
	• *EFFECTIVE:*
	  • Are all controls strong?
	  • Do the controls meet the control objectives?
	  • If weaknesses are uncovered, are the associated risks acceptable?
	
	• *EFFICIENT:*
	  • Are the costs of the controls reasonable in relation to the potential loss?
	  • If excessive controls are uncovered, can they be eliminated?			

STANDARD: CONTROL OBJECTIVES

Explanation: This standard requires that control obectives be established for all programs and functions. The control objectives should specify risk-reduction targets or goals.

Information Sources: To judge compliance with the control techniques standard, review the objectives established in Step 4 and the test results generated during Step 6. The control objectives may have appeared adequate until we performed our tests.

Compliance Test:

	COMPLIANCE QUESTIONS	YES	NO	IF NO...DESCRIBE IMPORTANT WEAKNESSES
C O N T R O L O B J E C T I V E S	• *COMPREHENSIVE:* • Are all of the control techniques (including compensating controls) linked to at least one control objective? • Are all major risks associated with this program/function addressed by the control objective? • *LOGICAL:* • Do the control objectives support the achievement of the program's/function's mission? • Do the control objectives support the achievement of the internal control mandates?			

STANDARD: COMPETENT PERSONNEL

Explanation: This standard requires that personnel have the skills and knowledge necessary to: a) accomplish assigned tasks, and b) support the internal control system.

Information Sources: To judge compliance with the competent personnel standard, review the analysis of the general control environment conducted in Step 2 and the test results generated during Step 6.

Compliance Test:

	COMPLIANCE QUESTIONS	YES	NO	IF NO...DESCRIBE IMPORTANT WEAKNESSES

C O M P E T E N T P E R S O N N E L	• *INCUMBENTS:*
	  • Do the current personnel have the skills and knowledge needed to adequately perform the control techniques?
	
	• *SYSTEMS:*
	  • Do the personnel systems for selecting, training, rewarding, disciplining, etc. support the achievement of the control objectives?			

STANDARD: SUPPORTIVE ATTITUDE

Explanation: This standard requires that managers and employees maintain and demonstrate a positive and supportive attitude toward internal controls.

Information Sources: To judge compliance with the supportive attitude standard, review the analysis of the general control environment conducted in Step 2 and the test results generated during Step 6.

Compliance Test:

	COMPLIANCE QUESTIONS	YES	NO	IF NO...DESCRIBE IMPORTANT WEAKNESSES
S U P P O R T I V E A T T I T U D E	• *PROVISION OF RESOURCES/ SUPPORT:* • Are sufficient resources provided to develop, maintain, and evaluate the internal control system? • Do personnel have the authority needed to develop, maintain, and evaluate the internal control system? • Does the organizational structure support the development, maintenance, and evaluation of the internal control system? • *INCENTIVES:* • Are personnel reinforced for their involvement with internal controls? • *AUDIT RESOLUTION:* • Are audit/evaluation findings resolved in a timely manner? • Are corrective actions taken based on information developed through audits/reviews?			

> **STANDARD: REASONABLE ASSURANCE**

Explanation: This standard requires that the internal control system provide reasonable assurance that the control objectives will be met on an ongoing basis.

Information Sources: To judge compliance with the reasonable assurance standard, review your analysis of the general control environment and your evaluation of the previous standards: a) control techniques; b) control objectives; c) competent personnel; and d) supportive attitude. These standards are the building blocks of the control system. Serious weaknesses in any previous standard can affect your ability to provide reasonable assurance.

Compliance Test:

	COMPLIANCE QUESTIONS	YES	NO	IF NO. . .DESCRIBE IMPORTANT WEAKNESSES

R E A S O N A B L E A S S U R A N C E	• *CONTROL TECHNIQUES:*
	  • Do the control techniques meet the general and specific standards?
	
	• *CONTROL OBJECTIVES:*
	  • Do the control objectives meet the control objectives standard?
	
	• *COMPETENT PERSONNEL:*
	  • Do the incumbents and the personnel systems meet the competent personnel standard?
	
	• *SUPPORTIVE ATTITUDE:*
	  • Does the program/function meet the supportive attitude standard?
	
	• *GENERAL CONTROL ENVIRONMENT:*
	  • Does the general control environment support the achievement of the control objectives?			

SUMMARIZE THE EVALUATION

STANDARD	IN COMPLIANCE?		RATIONALE	WEAKNESSES
	YES	NO		
REASONABLE ASSURANCE				
SUPPORTIVE ATTITUDE				
COMPETENT PERSONNEL				
CONTROL OBJECTIVES				
CONTROL TECHNIQUES				

STEP 8. SELECT CORRECTIVE ACTIONS

> Scientific data are not taken for museum purposes; they are taken as a basis for doing something. If nothing is to be done with the data, then there is no use collecting any.
>
> W. Edwards Deming

Each manager is responsible for the quality of his/her control system. If any weaknesses are found as a result of the Internal Control Review, the next step is to weigh the costs of taking corrective measures against the risk, and the net benefit to be derived from such action.

This is a four step process:-

● Identify the Problem i.e. controls non-existent, controls not used, compensating controls in use, weak controls, excessive controls, or weak control environment.

● Identify the Reason for the Problem Why is it occurring?

● Identify Possible Corrective Actions to eliminate, or lessen the impact of the problem.

● Identify Problems Outside Your Control These should be referred to a higher organizational level for their action and/or follow-through.

Worksheet ICR 8.1 is a checklist which suggests and summarizes possible corrective actions under various categories.

No matter how desirable, it is not always feasible to resolve all the problems immediately. Resource constraints -- available personnel, limited budgets, and processing time -- usually preclude this. Thus, given your particular situation, you have to establish relative priorities for initiating action.

Worksheet ICR 8.2 should be used to document the corrective actions you plan to undertake.

PROBLEMS/WEAKNESSES	REASONS/CAUSES	SELECTED ACTIONS	COSTS/BENEFITS		TIME FRAMES	
			ESTIMATED COSTS	ESTIMATED SAVINGS	BEGIN	END

STEP 9.   REPORT THE RESULTS

Reports communicate the current status of a situation, suggest future actions, and establish a basis upon which future comparison can be made.
In addition to the changes which you are able to make in your immediate area of responsibility, your report may also be useful in

- identifying solutions to problems of a general nature, which can be adapted by other managers.

- informing higher authorities of resource constraints which limit your ability to implement improvements.

- recommending changes in organizational policies and procedures which impinge upon your operating program/function.

Reporting the results of an Internal Control Review involves two principal elements:-

- An End-of-Review Report summarizing findings and selected corrective actions.

- A Progress Reporting System for recording accomplishments.

WRITING THE REPORT: The final step in the process (as far as the Internal Control Review is concerned) is to present the findings. There is no 'one best way' to do this, but there are some general principles to follow, and they should be heeded, for this is the most critical part of the entire process. While much background data needs to be included for reference purposes, the major point of the report is to identify what needs to be done, and to persuade decision-makers to do it.

An important aspect is to prepare a **one page** Executive Summary of the area of the study, the findings, and the principal conclusions. If you can't get it on one page, you haven't purged, simplified and summarized enough! Many busy executives simply don't have the time to wade through long, involved technical analyses. Although the details are necessary for support, reference and backup, the executive summary is designed to get management's attention. It should tell them -- very briefly -- what the review was about, and now what you want **them to do** about it.

A few points in writing the report:

- **Avoid technical jargon and acronyms.** Even though they may be familiar to you - invariably someone will not understand it. If that someone is a busy decision-maker, you may not have another chance to get their attention and their understanding of your problem.

- **Round off numbers wherever possible.** The broad picture is usually much more important than the precision.

- **Use graphs instead of tables,** wherever possible. The trend is usually more important than the detail.

- Where you do use tables, **get the data on one page,** and organize it so that a single message is highlighted. Comprehensive matrices of data may be useful for others to research, but they do not communicate well to managers until interpreted. If you need the comprehensive table, put it in the appendix, and extract from it.

- After using a table or a graph, **summarize the point in narrative form.** Don't simply assume that the reader will get the same message that you sent. Some people have mental blocks against numbers, others against charts, and others against words.

Worksheet ICR 9.1 is a checklist for producing the End-of-Review Report.

WORKSHEET #ICR 9.1
PRODUCING THE END-OF-REVIEW REPORT ————————————————————

CONTENT REVIEW ————————————————————————————————

	YES	NO
• Is the review process described as required?	☐	☐
• Are the evaluation results described as required?	☐	☐
• Are selected actions and recommendations presented?	☐	☐

WRITING REVIEW ————————————————————————————————

	YES	NO
• Are simple words used and jargon avoided when possible?	☐	☐
• Are sentences short and to the point?	☐	☐
• Is the text free of spelling and grammatical errors?	☐	☐

ORGANIZATION/FORMAT REVIEW ————————————————————————

	YES	NO
• Is the page layout simple and uncluttered?	☐	☐*
• Are key words emphasized (underlined, highlighted in bold-face type, etc.)?	☐	☐
• Is there enough space between lines to make the text easy to read?	☐	☐
• Do headings guide the reader through the document?	☐	☐
• Do illustrations, tables, figures, and other graphics support the narrative content?	☐	☐
• Is the material organized and collated into its proper order?	☐	☐

ESTABLISH A TRACKING SYSTEM FOR FOLLOW-UP

The submission of the End-of-Review Report is the beginning of the 'Corrective Action' Phase.

Recommendations for corrective action must be tracked - in much the same manner as recommendations by the Office of the Inspector General. Periodic progress reports will be required for the Agency's Internal Control Oversight Committee.

The essential elements to monitor for each situation are:-

* Implementation Status - On/behind Schedule
        (Reason for delay, if encountered.)

* Future Implementation. Are the
    - original recommendations still appropriate?
    - time frames still realistic?
      (Reason for changes, if any.)

* Benefits - What benefits have resulted from
        the changes made?
        (Savings in costs, personnel, resources;
         improvement in performance - quantity
         or quality; reduction in fraud, waste, abuse,
         mismanagement incidents.)

    Worksheet ICR 9.2 is a checklist/guide for tracking.

    Worksheet ICR S.1 is an overall Internal Control Review checklist.

TRACKING QUESTIONS

- **Has all work begun on time?**
  ☐ YES   ☐ NO

  - If NO. . .Explain why not: _____

  _____

- **Has all work been completed on time?**
  ☐ YES   ☐ NO

  - If NO. . .Explain why not: _____

  _____

- **Are the time frames still realistic?**
  ☐ YES   ☐ NO

  - If NO. . .Explain why not: _____

  _____

- **Are the selected actions still appropriate?**
  ☐ YES   ☐ NO

  - If NO. . .Explain what modifications are needed: _____

  _____

- **Have benefits resulted from the corrective actions?**
  ☐ YES   ☐ NO

  - If YES. . .Describe the benefits: _____

  _____

  - If NO. . .Explain why not: _____

  _____

✔ **WHEN COMPLETED**

STEP 1: PLANNING THE REVIEW

    1.1   Develop Review Plan   ☐

    1.2   Collect Background Information   ☐

STEP 2: REVIEWING THE VULNERABILITY

    2.1   Verify Analysis of Control Environment   ☐

    2.2   Review Maximum Potential Risk   ☐

    2.3   Establish Maximum Acceptable Risk   ☐

STEP 3: IDENTIFYING AND VERIFYING EVENT CYCLES

    3.1   Identify Event Cycles   ☐

    3.2   List and Record Steps   ☐

    3.3   Verify Steps   ☐

    3.4   Document Event Cycles   ☐

STEP 4: ESTABLISHING CONTROL OBJECTIVES

    4.1   Identify Event Cycle Risks   ☐

    4.2   Identify Control Objectives   ☐

    4.3   Document Control Objectives   ☐

STEP 5: IDENTIFYING AND EVALUATING CONTROL TECHNIQUES

    5.1   Identify Existing Controls   ☐

    5.2   Assess Existing Controls   ☐

    5.3   Document Existing Controls   ☐

STEP 6: TESTING THE CONTROLS

    6.1   Select Controls to be Tested   ☐

    6.2   Select Test Methods   ☐

    6.3   Determine How Much Testing is Needed   ☐

    6.4   Plan Data Collection   ☐

    6.5   Conduct Tests   ☐

    6.6   Document the Tests   ☐

STEP 7: MAKING THE OVERALL EVALUATION

    7.1   Evaluate the Standards   ☐

    7.2   Document the Evaluation   ☐

STEP 8: SELECTING CORRECTIVE ACTIONS

    8.1   Identify Possible Actions   ☐

    8.2   Analyze Costs and Benefits   ☐

    8.3   Document Corrective Actions   ☐

STEP 9: REPORTING THE RESULTS

    9.1   Produce End-of-Review Report   ☐

    9.2   Establish Tracking System   ☐