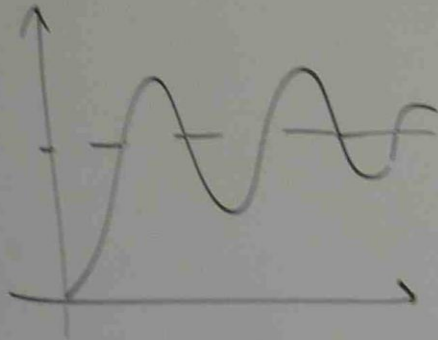
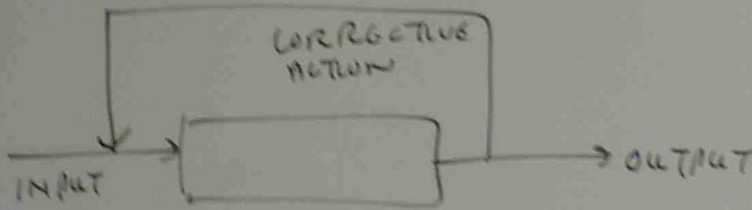


CONTROL OF PROJECTS

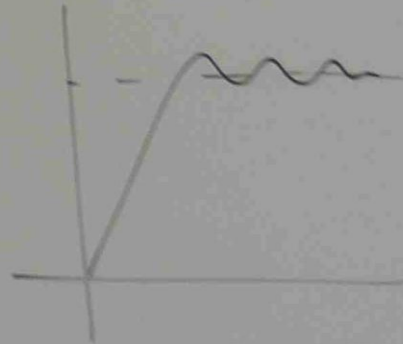
ROLES OF PROJECT MANAGER

PLANNING, ORGANIZING, DIRECTING, CONTROLLING ACTIVITIES

FEED BACK

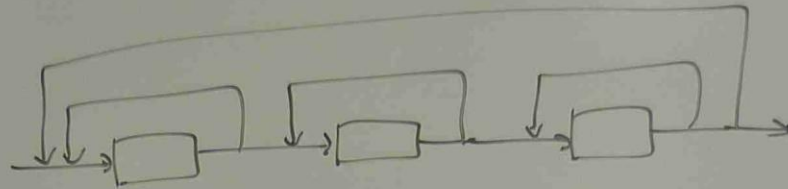


INSTABILITY



STABLE SYSTEM

QUALITY AUDITING STEPS



CONTROL OF MAJOR CONSTRAINTS - QUALITY

- ① MANAGEMENT RESPONSIBILITY - THERE MUST BE A DEFINED MANAGEMENT REPRESENTATIVE TO PROVIDE A SINGLE POINT OF CONTACT FOR CUSTOMERS.
- ② ESTABLISH AND MAINTAIN A DOCUMENTED QUALITY SYSTEM
- ③ ESTABLISH AND MAINTAIN A SYSTEM FOR REVIEWING CUSTOMER CONTACTS
- ④ THE DESIGN PROCESS SHALL HAVE A QUALITY CONTROL SYSTEM ON INPUT, OUTPUT AND PROCESS LIFE.

- ⑤ DOCUMENT CONTROL - ALL DOCUMENTS SHOULD BE CONTROLLED TO ENSURE THAT THE CURRENT ISSUE IS THE ONLY ONE IN USE
- ⑥ ENSURE THAT THE PURCHASED PRODUCT CONFORM TO SPECIFIED REQUIREMENT.
- ⑦ WHERE A CUSTOMER SUPPLIES A PRODUCT FOR YOU TO WORK ON, IT MUST BE IDENTIFIED AS BELONGING TO THE CUSTOMER
- ⑧ ALL PRODUCTS MUST BE LABELLED DURING PROCESSING AND MUST BE TRACABLE TO RECORDS OF COMPONENT PARTS
- ⑨ PROCESS SHOULD HAVE THE NECESSARY DEGREE OF PROCESS CONTROL.
- ⑩ NEED TO KEEP RECEIVING, IN PROGRESS AND FINAL INSPECTION INSPECTED AND PASSED, FAILED OR CONCESSIONED IS IMMEDIATE OBVIOUS
- ⑪ ANY MEASUREMENT USED MUST BE LABELLED AND CALIBRATED AS WELL AS BEING SUITABLE FOR THE APPLICATION.

12) THE PRODUCT MUST BE IDENTIFIED SO THAT THE INSPECTION STATUS (AWAITING INSPECTION, INSPECTED, PASSED, FAILED) MUST BE CLEAR.

13) PROCEDURES MUST BE IDENTIFIED FOR PREVENTING RECURRENT NON-COMFORMANCE, THROUGH ANALYSIS OF DEFECTIVE DATA PROCEDURAL AMENDMENTS ETC.

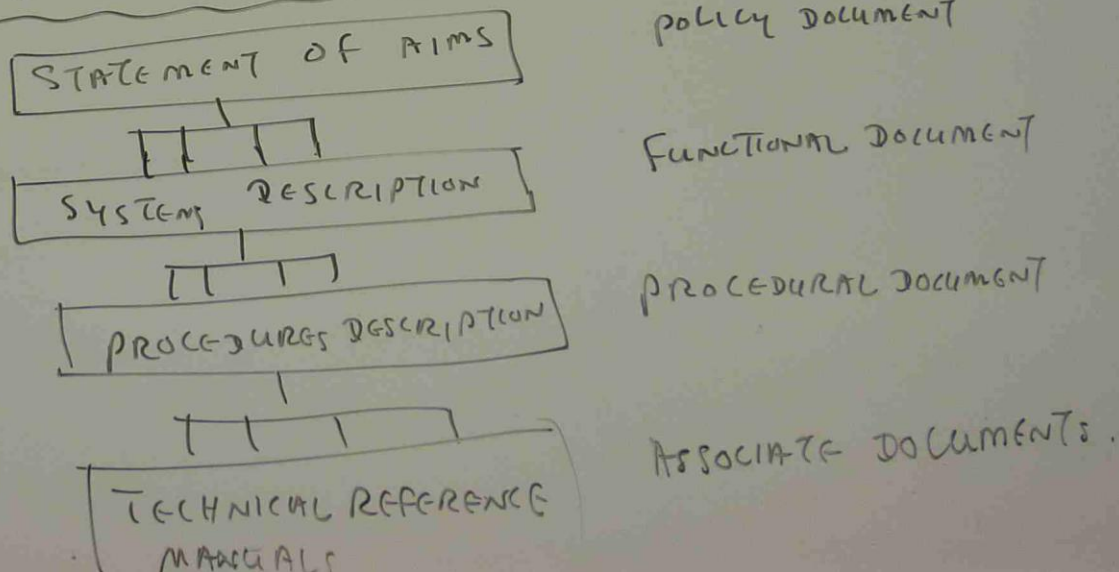
14) PROCEDURE MUST BE IDENTIFIED SO THAT WHEN A NON-COMFORMED PRODUCT IS PRODUCED, THERE IS A SYSTEM FOR DEALING WITH IT.

15) THE PRODUCTS WHICH ARE AT THE FINAL STAGE NEEDS TO BE STORED.

16) PROCEDURES ARE REQUIRED FOR IDENTIFICATION, FILING, INDEXING, STORAGE, MAINTENANCE AND DISPOSITION OF RECORDS

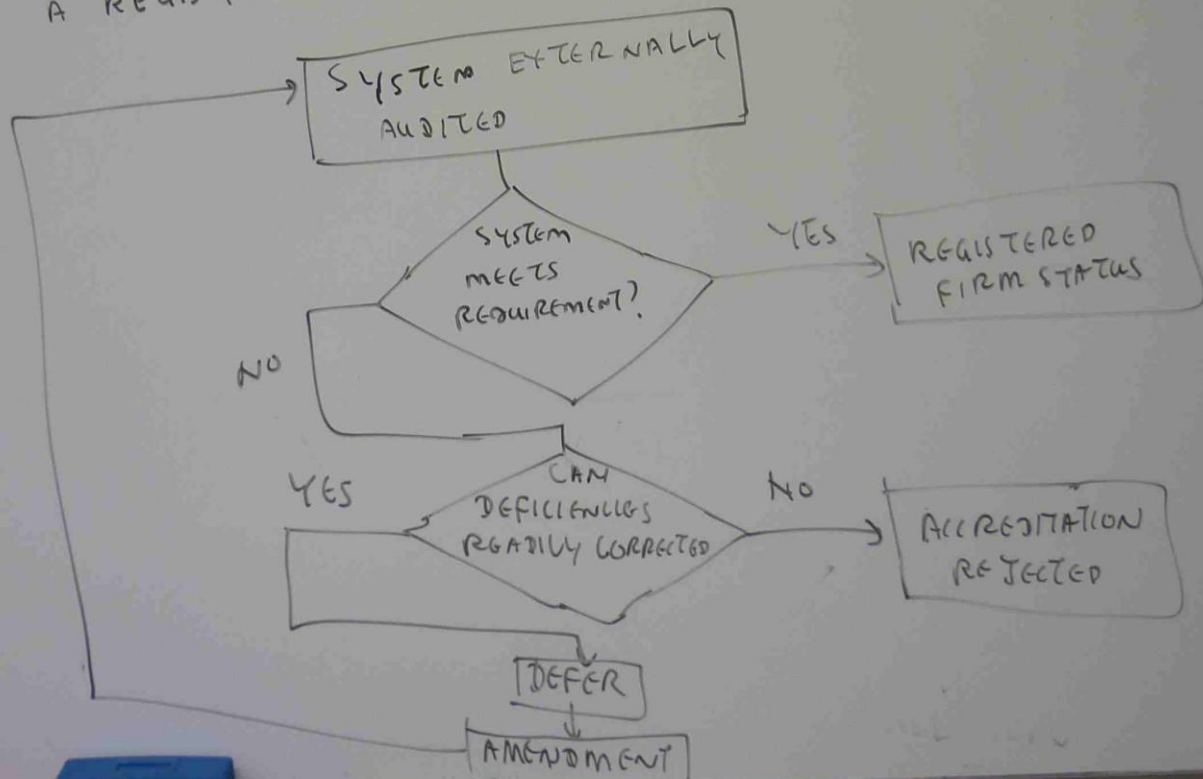
- 17) THE SUPPLIER SHALL CARRY OUT THE COMPREHENSIVE SYSTEM OF PLANNED AND DOCUMENTED QUALITY AUDITS
- 18) PROCEDURES NEED TO BE SET UP TO IDENTIFY NEEDS FOR THE EMPLOYEES TRAINING
- 19) SERVICING MUST BE CARRIED OUT IN ACCORDANCE WITH THE CONTRACT IF SPECIFIED
- 20) STATISTICAL TECHNIQUE MUST BE USED WHERE APPROPRIATE.

QUALITY SYSTEM DOCUMENTATION



PROCESSES OF IMPLEMENTING A QUALITY SYSTEM

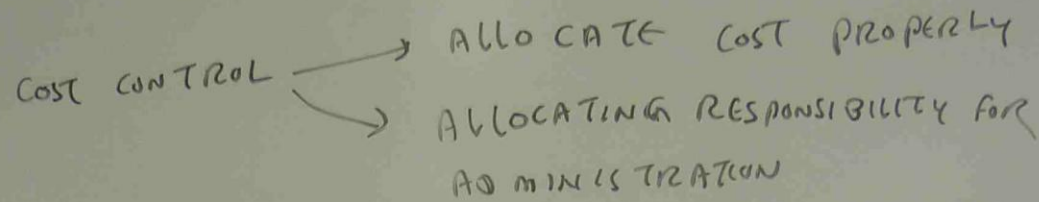
- 1) ESTABLISH A REASON FOR WANTING THE SYSTEM
- 2) TRAIN THE PEOPLE IN WORKING TO THE REQUIREMENT OF THE SYSTEM INCLUDING PREPARATION OF DOCUMENTATION
- 3) CREATE THE DOCUMENTATION INCLUDING THE REFERENCE MANUALS
- 4) CARRY OUT THE INTERNAL AUDIT
- 5) HAVE THE SYSTEM AUDITED BY AN EXTERNAL AUDITOR FROM A REGISTERED ASSESSMENT BODY.



ELEMENTS OF QUALITY COST

CATEGORY	ACTIVITIES INCLUDED
PREVENTION	QUALITY PLANNING, TRAINING, AUDITING, SUPPLIER DEVELOPMENT, COST TO MAINTAIN QUALITY, QUALITY IMPROVEMENT PROGRAM
APPRAISAL	CHECKING ACTIVITIES, MATERIALS, CONSUMPTION QUALITY ANALYSIS, REPORTING, AUDITING SUPPLIER, STORING RECORDS OF QUALITY RESULTS
FAILURE	<u>INTERNAL</u> IDENTIFYING ANY WASTED ACTIVITIES, PROBLEM SOLVING <u>EXTERNAL</u> REPLACEMENT OF FAULTY GOODS, RETURN TO SITE. RE-DO SOLVE COMPLAINTS CONSEQUENCE OF LOSS OF GOODWILL OF CUSTOMER

CONTROL OF MAJOR CONSTRAINTS

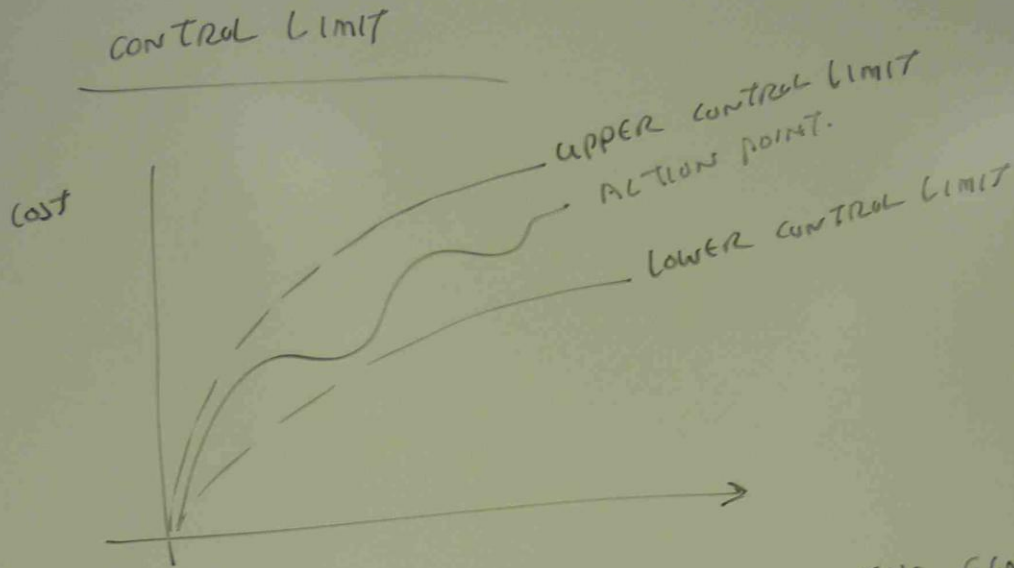


SELECTION

- CHECK EXISTING SITES
- CHECK UPGRADED PATHS FOR THE SYSTEM
- OBTAIN IMPRESSIONS FROM KNOWLEDGABLE USERS
- EVALUATE CAPABILITIES

ROLE OF MANAGEMENT INFORMATION SYSTEM

MEASURE → RECORD → ANALYSE — ACT



- ENSURING COSTS ARE INCURRED IN THE GENUINE PURSUIT OF PROJECT ACTIVITIES
- ENSURING CONTRACTOR'S PAYS ARE AUTHORIZED
- CHECKING OTHER PROJECTS ARE NOT USING YOUR BUDGET.

COST VARIANCE = ACTUAL COST OF WORK PERFORMED (ACWP) — BUDGETED COST OF WORK PERFORMED.

ESTIMATED COST OF COMPLETION PROJECT (EAC) = TOTAL BUDGET — COST VARIANCE

$$EAC = \text{PROJECT BUDGET} \times \text{PERFORMANCE INDEX}$$

$$\text{PERFORMANCE INDEX} = \frac{\text{ACTUAL COST OF WORK PERFORMED}}{\text{BUDGETED COST OF WORK PERFORMANCE (BCWP)}}$$

