

Thank you, Harry - Electronic Group
Beginning of DOD VE 1954-1962

We want to understand it
well enough so it will help
us get our contract renewed.

Unlearn

In nature

Systems at work

Ocean - builds, destroys - grows, grinds

Water - rain - atmosphere cycle - floods - hurricanes

Human Body

In a good system - "Whatever it requires is there"
or GREAT IS THE COST.

Men try to have systems

Politics

Government

New governments - Africa - etc.

Missile

Telephone

In man-made systems

When the system lacks something it needs

Mal Function (enormous)

or

Enormous extra cost

Sometimes both

Vassa

Present systems

To provide what is required

IN PERFORMANCE

VE is system to provide what is required

in COST FACTOR HANDLING.

As systems people

You know the enormous benefit from providing what is required.

Spend \$1000 and yield \$10,000 or \$100,000

Not surprising

No set relation between cost and benefit when something required by the system is provided.

200 gal. gasoline

3 days - \$1000 cost - \$400,000 gain

Concrete 2 days -- \$200 cost - \$45,000 gain

What does the system require?

PROVIDE IT.

A 7-PART LOGIC

1. Functional Basis.
2. Divided Functional Groups.
3. Group functions and Individual functions considered and precisely named.
4. Use function and Asthetic function clearly separated.
5. Basic functions and secondary functions as clearly as practicable separated.
6. All costs are associated with the functions involved.
7. By mental and physical search - better combinations of creativity and knowledge are caused.

In this framework the basic plan is used.

1. Information
2. Analysis
3. Creativity
4. Judgment
5. Development

With objective of identical or better performance

Lower Cost

(Hardware)	
(Service)	
Cost (Procedure)	Function
(Organization)	

Again

Costs remain because

Technical factors

Human factors

Parts of system needed not included

Examples spot focuser TV knob

VE complete system deals with area of need

1 of 7

Tech. or human

Like a piano

Trained op.

Environment

Definition

Arrangement of tech.

1. Makes clear

2. Estab. proper cost by comparison

3. Causes

Examples

Asbestos paper

2 tax collections/yr.

Sheet music

Skilled users

Like a new piano in a house where it is unknown

It is useless -

or..... much worse

But it makes mighty fine music

In an appropriate room

With a trained and skilled player

Problem solving

1. Problem definition

re-definition \$10 or 10¢

What function customer really wants

terminal board

2. Function identification

3. Function evaluation by a valid comparison

4. Search orientation - all info. in room

5. Idea development
Creativity - seed planting
environment
development
- Rope
6. Roadblocks - identify - deal with
Kirksite
Tools 75

SUMMARY

Extra cost because
Tech. lack
Psycho. factors
Psycho factors prolong tech. lack
prevent using tech. alternatives

Examples

Concrete
200 gal.
Filter circuit
Procedure

People importance

Men themselves

Their management

The safe environment

Summarize

System

Jet

Fly $\frac{1}{2}$ jet?

Runway

Pilot

Teach

Because see wings - wheels

Because objective air transportation

NO DC6!

Best of success to you in renewing contract.