

# QUESTIONS AND ANSWERS L O MILES MAY, 1965

1 WHAT IS A MEASURE?

AFTER A FUNCTION (OR A GROUP OF FUNCTIONS) IS FULLY UNDERSTOOD AND DESCRIBED, AND AFTER INTENSIVE AND EFFECTIVE WORK HAS BEEN COMPLETED - USING ALL OF THE FKM TECHNIQUES WHICH ARE APPLICABLE - THE LOWEST COST, WHICH IT SEEMS WILL ACCOMPLISH ALL OF THE USE AND/OR AESTHETIC <sup>FUNCTIONS</sup> WHICH THE CUSTOMER WANTS, CONSIDERING OUR PROBABLE MFG QUANTITIES - IS THE MEASUREMENT.

2 MUST WE PROVE? <sup>AND</sup> A FEW TIMES,

IN PREPARING THE MEASURE, THINKING PROCESSES, SEARCHES, ANALYSES, COMPARISONS WERE A SIGNIFICANT PART. THESE ARE AVAILABLE TO SHOW THE REASONABLENESS OF THE CONCLUSIONS. SOMETIMES IT WILL BE DESIRABLE TO CARRY THE STUDY FURTHER IN SPECIFIC CASES.

SOMETIMES A MEASURE IS BASED UPON THE EXPECTED OUTCOME OF A TEST OF A MINOR "UNKNOWN" ~~QUALITY~~ WHICH IS EXPECTED TO WORK OUT - BUT DID NOT - THEN MORE WORK SHOULD BE DONE TO ESTABLISH A VALID MEASUREMENT

TO BE 100% SURE OF ANYTHING, ENGINEERING TESTS MUST BE COMPLETED. THIS IS ENGINEERING WORK - NOT MEASUREMENT WORK.

THE GREAT VALUE IN THE MEASUREMENT COMES FROM THE SPECIFIC INTENSE SEARCHES, ANALYSES, CREATIVITY AND THINKING, SOME OF WHICH WOULD NOT OTHERWISE HAVE OCCURRED. AS A RESULT ABOUT 95% OF THE MEASUREMENTS WILL BE ABOUT 95% RIGHT, AND THEY FORM EXCELLENT GUIDES.

3 SHOULD WE GIVE EXPLANATIONS?

YES - TO THE EXTENT THAT THE INCREASED UNDERSTANDING IS NEEDED TO DEVELOP CONFIDENCE OF THE USER.

- OR TO THE EXTENT THE INFORMATION AND THINKING INVOLVED WILL HELP IN THE MFG, ENG, MATERIEL, OR OTHER WORK WHICH WILL FOLLOW IN THE USE OF THE MEASUREMENT

NO - ~~IF~~ <sup>WHEN</sup> NEITHER OF THE ABOVE APPLY.

1 WHEN DO WE GO INTO THE CREATIVE STEP? -

WHEN WE HAVE GATHERED ENOUGH INFORMATION, ANALYZED FOR MEANING AND DIRECTION, AND MADE INTO SPECIFIC SOLVABLE TYPE PROBLEMS. THEN CREATIVITY FOR A VARIETY OF SPECIFIC PURPOSES IS OFTEN A NEXT STEP.

WHAT IS A "SOLVABLE PROBLEM"?

A GROUP OF FUNCTIONS, (OR A SINGLE FUNCTION) WHICH ARE OFTEN INTER-RELATED, BUT ACCOMPLISH A SIGNIFICANT PURPOSE WHICH WILL PERMIT COMMON INFORMATION, ANALYSIS, CREATIVITY AND JUDGEMENT. THE GROUP IS NOT SO INVOLVED THAT INCISIVE THINKING BECOMES IMPOSSIBLE, OR SO SEPARATED THAT "PIECES" INSTEAD OF "FUNCTIONS" ARE BEING STUDIED.

WHEN IS A REAL AND FINAL MEASURE ESTABLISHED?

WHEN THE CONDITIONS IN QUESTION ONE HAVE BEEN MET AND THE TOTAL OF THE MEASURES MEET THE NEEDS OF THE BUSINESS, THEY ARE SO CONSIDERED UNTIL A CHANGE, EITHER IN THE NEED OF THE BUSINESS--OR IN THE VALIDITY OF A MEASURE OCCURS.

HOW DO WE GET PEOPLE TO PLACE CONFIDENCE IN THE "MEASUREMENTS"?

BY GIVING THEM UNDERSTANDING, EXPERIENCE WITH THEM AND RESULTS FROM THEM

8 HOW DO WE DIVIDE THE WORK, SO THAT OUR ASSOCIATES WONT THINK THAT WE ARE TAKING SOME OF THEIR WORK FROM THEM?

EACH ASSOCIATE NATURALLY EXPECTS YOU TO DO WHAT THEY HAVE SEEN YOU DOING IN THE PAST.

THEY MUST BE SHOWN--USUALLY IN ORIENTATION MEETINGS--THAT A NEW NEED FOR ASEA TO MEET MORE

SEVERE COMPETITION EXISTS AND THAT THIS METHOD IS BEING USED TO HELP.

THEIR MANAGERS MUST DISCUSS IT WITH THEM, SHOWING THEM HOW THEY WILL BE EFFECTED BY IT, HOW THEY WILL CONTRIBUTE TO IT AND HOW THEY WILL BENEFIT FROM IT.

CARE WILL THEN BE TAKEN BY YOU TO DISCUSS IT WITH THEM, AND TO PREVENT ANY EMBARRASMENT TO THEM FROM IT

9 MUST THIS BE WELL KNOWN, TO BE USED?

IT MUST BECOME WELL KNOWN AND WELL RESPECTED, AS WITH OTHER IMPORTANT WORK.

10 WILL THIS BE SO DIFFICULT ON MANY PRODUCTS THAT ONLY A SUPER-ENGINEER CAN DO IT?

NO. THIS WORK HAS APPROACHES AND TECHNIQUES QUITE DIFFERENT THAN THE TECHNOLOGY OF ANYONE ENGINEERING TECHNICAL FIELD. IT MAY BE RECALLED THAT LESS THAN AVERAGE KNOWLEDGE IN THE PRECISE TECHNICAL FIELD OF THE PRODUCT IS ADAQUTE

11. IF I WORK IN THIS 10 YEARS WONT I LOOSE TOUCH WITH THE TECHNICAL ADVANCES IN MY SPECIFIC TECHNICAL ENGINEERING FIELD?

YES - 2 TO 3 YEARS ARE GOOD, THEN ONLY IF YOU FIND THIS FULLY SATISFYING. AND CHALLENGING SHOULD YOU STAY IN IT.

12. ISN'T IT TRUE THAT AFTER 10 YEARS OF WORK IN FKM I WOULD HAVE FORGOTTEN MY BACKGROUND, AND COULD NOT WORK IN ANY OTHER DEPARTMENT OF WORK.

YES AND NO.

YOU WOULD BE BEHIND IN THE TECHNICAL ASPECTS OF ANY ONE ENGINEERING SPECIALTY.

YOU WOULD BE WELL AHEAD IN EXPERIENCE AND BACKGROUND FOR HANDLING BUSINESS RELATED ENGINEERING WORK.

13 HOW WILL WE MOTIVATE MEN TO USE THE MEASUREMENTS WE MAKE?

BASICALLY, YOU WON'T. NO ONE USES A METER STICK JUST BECAUSE IT IS AROUND. -- NOR, AN ENGINEER, JUST BECAUSE HE IS HERE.

MOTIVATION IS FROM BUSINESS NEED, AND IT APPEARS THAT COMPETITIVE NEED IS INCREASING. IT IS A CASE OF NEED - AVAILABILITY - ORIENTATION - UNDERSTANDING.

14 TO WHOM WILL I PRESENT MY RESULTS?

AS MARKETING PEOPLE AND OTHERS DETERMINE REQUIREMENTS OF PERFORMANCE, SELLING PRICES ETC FOR THE NEEDS OF THE BUSINESS, FOR ALL WHO NEED TO USE. SO YOU WILL DETERMINE FKM TO MEET THE BUSINESS NEED, FOR ALL WHO NEED THEM TO USE.

15 IF WE PROVIDE GUIDES TO DECISION MAKING, WONT IT BE CONSIDERED TROUBLESOME BY THE MEN WHO NOW ADVISE THE MANAGERS ON DECISION MAKING?

TO THE LUMBER APPRAISER WHO HAS ALWAYS ESTIMATED THE HEIGHT AND DIAMETER OF TREES BY HIS EXPERIENCE AND SKILLFUL INTUITION, THE UNEXPECTED APPEARANCE OF AN EFFECTIVE MEASUREMENT DEVICE, WHICH READILY PROVIDED MORE ACCURATE MEASUREMENTS -- WOULD BE TROUBLESOME, PERHAPS EMBARRASSING AND INJURING. IF HE KNEW AHEAD THAT IT WAS COMING, WAS AMONG THE FIRST TO UNDERSTAND IT AND USE IT, AND IT HELPED HIM DO HIS JOB

BETTER, THE OPPOSITE MIGHT BE TRUE. 5

WHEN MEN IN THE BUSINESS FIND THAT, HERE ARE MEASUREMENTS, WHICH HELP EACH ONE MAKE HIS COST-EFFECTING DECISIONS, THEY WILL LIKE USING THEM, AS THEY LIKE GETTING AND USING MEANINGFUL ACCOUNTING DATA, OR ANY OTHER -