

NQA Pre-Assessment Audit
August 29-30, 2001

MSFC SCRIBE NOTES FOR PRE-ASSESSMENT TO ISO 9001:2000
PERFORMED IN AUGUST 2001

NOTE: The answers to most of the questions are organization specific. It is your organization that decides who it's customers are and how they obtain feedback (this was done as a CAITS action item and provided to Steve Durham in coordination with activities for inputs to the Marshall Implementation Plan.) It is your organization that determines it's own quality objectives and where individuals fit in (again this is being worked with inputs to the Marshall Implementation Plan.) It is your organization that determines what metrics are important to track and analysis and informing it's people where they fit in this process. Therefore, the answers will differ from one organization to another.

It is recommended that you contact your supervisor or your Marshall Management System / ISO organization representative if you have specific questions about your organization's approach to implementing ISO 9001: 2000.

Date: 8/29/01
Shift: Morning
ISO Element(s):ISO-9000/2000 8.2.1
Auditee Organization Code: ED01
Building: 4200

- N: What is your role or involvement in customer satisfaction?
A: ED is primarily support, so we concentrate more on internal customers.
- N: Who is your primary customer:
A: Shuttle, Space Station, Science (esp. Microgravity), Space Launch Initiative
- N: How do you know their perception of your group?
A: We send out a set of 13 questions on customer satisfaction to rate 1 thru 5, electronically.
- N: What was the response?
A: 46% responded and customers were 96% satisfied with our performance. This survey was anonymous, by org. code, and sent to 80 people.
- N: Is this something you do periodically?
A: Yes, annually.
- N: Will goal or questions change?
A: Questions will likely remain the same, we also do an employee survey.
- N: Based upon inputs do you ever identify items for improvement?

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- A: Yes, they are not shy, primarily from the comments, and not from the numbers - developed and published a plan last year.
- N: Could I see your questionnaire?
- A: Electronic, could n't get it immediately, but will get one to you.
- N: Do you remember any of the problems?
- A: Organization-we reorganized put engineers with projects, this created some problems, so we are now looking at how ED will not duplicate what the engineers are doing.
- N: Your survey is once per year?
- A: Yes and we also have the "amigo" system - one person per product line, single point of contact, attends project meetings and all issues comes to this person.
- N: Do these report periodically, how does this work?
- A: Daily or weekly, an open door, we support their major reviews, internal (director level) on a quarterly basis.
- N: The 4 amigos set-up, is this unique to ED?
- A: Pretty much
- N: Does their reporting go into a higher level part of a bigger picture?
- A: Yes, we are just formulating this, and quarterly reviews is the way to get issues back to us-we've met with only Shuttle group to date.
- N: Amigos a good source for opportunity for improvement/
- A: Yes, Senior people, and program has been around for two years and is still being formulated.
- N: Comments; very valuable information which is on-going/
- A: Very proactive, shows how we are operating as a business using the 50 actions strategic to business plan, what are things with high pay back and we went for low hanging fruit.
- N: What kind of records do you keep?
- A: Strategic Plan and implementation plan aligned in a matrix(spreadsheet)

Date: 8/29/01

Shift: Morning

ISO Element(s):ISO-9000/2000 8.2.1

Auditee Organization Code: MP01

Building: 4202

- N: What involvement does this group have in continual improvement?
- A: Shuttle projects office, External tanks, Side Rocket, Integration. 143 people. (reviewed the org. chart with the Auditor) Methods used include encourage training, employee appraisals, employee

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development plans. We have a data base that ties to the HR office which has recommended training.

N: So improvement here is more toward a better trained work force?

A: Yes, and also through continuing education programs.

N: From the shuttle project perspective, how do you identify improvements?

A: Metrics reported on a monthly basis, Informal stoplight charts on a high level is how we meet our commitments. Also promotion and incentives.

N: Is competency generally found in performance appraisals?

A: By nature, informal, one on one communication, first time should not be in an appraisal. (another person brought up Kaizen, and configuration management board review process. Streamlined process as an example of improvement) Product upgrade boards point out improvements. Thrust factor control is an example of improvements.

N: Can I see these upgrades you're talking about?

A: Yes

N: Get me something by, say, tomorrow afternoon. Also improvements can be in your system.

A: IDP process, improved time, what is needed, via electronic methods.

N: Can I see the data base? How long has it been implemented?

A: Yes and demonstrated on the system. (Shuttle on line page)

N: The auditor, turning to the escort, stated "this is our 6.2 stuff"

A: Explained about project plans and configuration review processes.

N: Is there a central repository for continual improvement records?

A: No, just set up for each office to keep.

N: Many times this is put together for management review?

A: There are no roll ups at this time.

N: I would have expected the IDP electronic to be an element of management review, it seems significant. Is it centerwide?

A: No, just shuttle group, but a lot are sharing. (Tried to demonstrate the shuttle website, but system wouldn't accept the password)

N: Who controls the instruction for this process?

A: There is a person who is approved to be able to make changes.

N: Is this a stand alone or a part of a larger system?

A: Stand Alone.

N: (Auditee still cannot get into the system.) Are you aware of Quality Objectives?

A: Yes, (auditee took us to office next door and showed the framed priorities which included safety....etc.)

N: How do you measure?

A: Costs, Schedules, Project Reviews.

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- N: Under budget?
A: Shows improvement
- N: Can you show me improvement support information?
A: Yes, (now Shuttle website took the correct password), and auditor was shown some enhancements and costs, etc.
- N: Do you have the same objectives?
A: Well, yes, but they are up there and I'm down here.
- N: How do you get from there to here?
A: Wkly/monthly reports, shows where we are and status... various project reviews. Program Operating Plan process.
- N: POP's more on line of deliverables?
A: Showed auditor some Flight Readiness reviews, POP cost trends, and safety charts. Demonstrated Shuttle training data base.
- N: That's fine, you've shown me an example of improvement.
A: Showed auditor some examples of upgrades (friction welding process, phase I and phase II, Technical/Safety/Programmatic.

Date: 8/29/01

Shift: Morning

ISO Element(s): ISO-9000/2000 8.4

Auditee Organization Code: QS10

Building: 4202

- N: Do you collect and analyze data?
A: Yes, me or my folks.
- N: What type data, and how do you know what you do or what you don't collect and analyze?
A: Mostly supplier data, from list of audited suppliers.
- N: What is this office?
A: S&MA, Quality Engineering
- N: The metrics you have are typically in Procurement?
A: Checking and approving suppliers and re-check.
- N: I would like to see the evaluation of performance of a particular supplier over a period of time can you pull one up?
A: Pulled up data base for only suppliers that ship to MSFC.
- N: Who assures the performance on other suppliers?
A: By in plant personnel (MSFC) or delegated to DCMA...etc.

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- N: Do they have a good...
A: They look at audit reports.
- N: How would I know if the Suppliers are satisfactory?
A: They are audited vendors and must do CA when we see something wrong.
- N: How do you get to be conditional (in relationship to qualifying/disqualifying)
A: One nonconformance if it is a critical NC or if there is a NC trend.
- N: So ??? has no significant nonconformities?
A: That's correct.
- N: MWI 5116, Award Fee Provisions?
A: MWI 5330 procurement
- N: I would like to review further, I will review MWI 5330 document tonight, I want to see how data pulls together.

Date: 08/29/01

Shift: Afternoon

ISO Element(s): 6.4

Auditee Organization Code: AD23

Building: 4250

- N: What goes on in Facilities, i.e., how do you interface with your environment?
A: AD23 responsible for contract oversight of the maintenance and operation of all MSFC facilities. Includes utility control systems (heat and air conditioning), monitor buildings, responsible for starting and stopping equipment.
- N: Who is your customer(s)?
A: Everyone on the MSFC center
- N: Do you handle any hazard materials and, if so, how is that handled?
A: All explosives handled by the test stands(s). AD23 has hydrogen, helium type hazardous materials and these are handled by the contractor
- N: What statutory/regulatory requirements do you have and how are they handled?
A: State regulations apply and they are the responsibility of the Environmental people.
- N: How is specialized training handled?
A: Contract requires contractor to be responsible for all training. AD23 relies heavily on customer feedback to assess the capability/functionality of the contractors. In addition, OWIs AD20-002 and AD20-001 define the procedures for monitoring the contractor. MPGs apply relative to safety. S&MA keeps track of AD23 training. Contractor graded in 2 areas; quality of work performed and timeliness.

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A: AD23 was asked to show examples of AD20-001. We were shown their web-based data base evaluation system.

N: Can a contractor disagree with the evaluation?

A: Only below a certain level. Self-evaluations performed by disinterested third party.

N: What processes do you employ for continual improvement?

A: Representatives of AD23 are involved with all quality programs

Date: August 29, 2001

Shift: Afternoon

ISO Element(s): 6.4 Work Environment

Auditee Organization Code: AD23

Building: 4250

N: How does Facilities interface with the work environment?

A: We do the buildings. [Not sure on exact answer on this one.]

N: Who are your customers?

A: Everyone in a building.

N: Do you have hazardous materials?

A: Propellants, etc. These are mainly at the test stands and someone else is responsible for them.

N: What regulations (State/Federal, etc.) apply?

A: Most of the regulations that we have to deal with are environmental in nature. That is covered/managed in a different Department [AD10]. (Boiler effluent -- what we put into the atmosphere, etc.)

N: So basically you operate and maintain the buildings.

A: Yes.

N: What do you operate?

A: Heating and Air systems, High bay lighting. Start/Stop equipment in building.

N: Do you have any specialized training (for operating/maintaining)?

A: Yes, but it is usually covered within the contract.

N: You contract out?

A: Yes. There are about 20 Civil Servants and 350-400 contractors. Most of our activities are done by contractors.

N: So you mainly manage the contract?

A: Yes.

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N: What measures do you have in place to tell if the job is performed right?
A: Customer feedback surveys.

N: Can you show me one?
A: Auditee pulled up survey, etc.

Date: 08/29/01
Shift: Afternoon
ISO Element(s): 6.2
Auditee Organization Code: CD10
Building: 4200

N: Explain your office/area activities.
A: Responsible for recruiting, staffing, job classification, possible management, employee benefits.

N: Do you identify competency needs?
A: No, just qualifications based on the Office of Personnel Management (OPM) standards. Training office fills gaps.

The Auditor explained that ISO 9001:1994 looked at training but ISO 9001:2000 had added Competency as an element.

N: How do you measure the competency of your employees?
A: Via the Performance Appraisal Standard; this was identified as a management process.

N: May I see a performance appraisal?
A: Those records are kept in a separate filing room. We asked to return later to examine these records and were granted permission to return.

N: How do you evaluate development plans?
A: Falls in the realm of the employee's supervisor. The blank performance appraisal and plan were shown.

N: Does every employee have a performance plan?
A: Yes

N: How often are these reviewed?
A: Twice a year

N: How many do you prepare?
A: 18

N: When are the next scheduled?
A: June 2001

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N: How documented?

A: Same procedure

N: How are employees graded?

A: Meets or Fails to Meet

N: How do you verify the effectiveness of those appraisals?

A: Supervisor sets the ground rules and has actions he can take for Fails to Meet rating specified in TALC5, Chapter 4.3 Code of Regulations. Modifiable and maintained in records file room.

N: Can we check a few?

A: Yes, (arrangements made to meet with auditee later for review of records)

N: What do the records contain?

A: Capture competency based on experience, training

N: Does MSFC have its own plan/directives?

A: (scribe failed to record or remember answer)

Date: 08/29/01

Shift: Afternoon

ISO Element(s): 7.4

Auditee Organization Code: PS10

Building: 4202

N: What are your basic responsibilities in this office?

A: Responsible for the Information Technology relative to Electronic Systems, PROMIS, Tracking and Procurement System, and NAZ. The Policy group reviews contents of contracts for policy adherence, support pricing for major contracts via SEB type activities, and responsible for the auditing of credit card holders.

N: How do you measure/evaluate your suppliers?

A: Each contract, various types, include methodology for evaluation. COTS and other off-the-shelf items are often evaluated by the contractor or sub-contractor.

N: Do you maintain a list of qualified suppliers?

A: Yes, via the Past-Performance DB(MSFC) and the Procurement Information Circular (PIC).

N: May I see this?

A: Initially no one was available to demonstrate the database. We were directed to Ms. ????. Later Mr. ??? provided a demo of the past performance database. Complies with form 1680. Agency wide dissemination.

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N: What are your procedures for evaluation?

A: Referred us to MWI, Evaluation of contractors, Suppliers, Vendors.

N: Are Contractors required to use MSFC approved vendors?

A: No, only required to comply with JoFoC.

N: Who/what is your customer/objective?

A: Customer is the entire Procurement Office.

N: Do you have Statutory or Regulatory Requirements and how are they incorporated?

A: Defined in the FAR, FAR supplements, legal office, and PIC. Information on policy changes disseminated via e-mail. Referred to the 5000 series MSFC documents.

Date: August 30

Shift: Morning

Auditee: DE01

Building: 4200

N: Does each organization have specific customer?

A: Not specific. Customers depend on work. For example – Procurement/Chief Council office/CaRE Office – everyone on the center is their customer.

N: Do they deliver a product?

A: Yes. Experiments, etc is a delivered product. Products could be delivered to university or someplace.

N: What University?

A: All

N: What about customers?

A: Several of our organizations have customers who are internal as well as some have customers that are external.

N: Review Goals of MSFC, scope statement. I have an issue with the scope statement. Where it is not false advertisement, it should accurately reflect the activity being performed. People who interface with you outside don't know what you are involved in. Your mission statement outlined is more clear to someone. For scope statement, you want clear objections. Creating from the goals objectives that are measurable. Rather than list various activities, the scope should be visionary. A visionary statement that tells what you are.

A: (Discussion on what scope says to outsiders)

N: Should be a broad statement, but should include something more specific that allows people to understand what type of work is being performed. Scope needs to be inclusive of all that you do – just an explanation.

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A: (Discussion on what to do – where to audit. Develop schedule)

Date: 8/30/01

Shift: Morning

ISO Element(s): ISO-9000/2000 8.2.1

Auditee Organization Code: CD40

Building: 4200

N: Do you have objectives?

A: Our office is responsible for the strategic plan.

N: Could I see the plan?

A: Retrieved copy of plan for auditor and explained the organization of the Implementation plan, explained the enterprises and 3-5 year plan and how it was a direct link to what the Agency says they will do each year.

N: How many enterprises at MSFC?

A: We touch on every enterprise- and then there was more explanation.

N: I used the term Quality Objectives, but these are more like business objectives?

A: These are both.

N: These are measurable?

A: Yes and we've gotten better each year, and the annual report shows goals compared to results for each metric.

N: Sounds like these are Goals?

A: Right, but they include things such as customer Satisfaction, balanced score card, etc.

N: Can you access metrics from here (indicating the terminal)

A: Not from here, but from my office and this is just in the infancy stage, I can show you what we have.

N: So, do we know how we're doing against these objectives?

A: No- will start working up annual report in October, when Quality Council will ask for updates of NASA metric target measures.

N: So this annual report, 1999, do you have the metric plan to match?

A: Yes and they match perfectly, I'm very matriculate in assuring that each metric is covered.

N: Well, lets leave that, lets take one metric and drive down into organization-where could I go to find?

A: Not sure I understand the question.

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- N: Gave example of Science metric-how far down would personnel be knowledgeable of top objectives/
A: 60 pages of written text has been consolidated to simplify it so any individual can go through this document and find his organizations responsibility to the metric.
- N: Do these objectives tie in to the Quality Policy?
A: Yes must mesh all things together, changed about 3 weeks ago, some folks are confused because the 2002 plan will have to include Quality objectives-there are center level objectives and each directorate has office level objectives.
- N: I'm still trying to grasp how much objectives are flowing down.
A: Can't provide that flow down right now, but can talk to someone and be able to show their compliance status to the plan-every employee get copy of plan annually, as do contractors, other centers, congressmen, -it's a PR tool also.
- N: Objectives are something that will be looked at throughout the audit, how do individuals comply throughout the organization, so it is very important.

Date: 8/30/01
Shift: Morning
ISO Element(s):ISO-9000/2000 8.2.1
Auditee Organization Code: DE01
Building: 4200

- N: We have management commitment.
A: Only been in this particular position for a couple of weeks.
- N: What do you feel to be your role in Mgt. as relates to quality?
A: To be an advocate for S&MA for means for them to do their job, lead the weekly implementation meetings, and give team direction and support.
- N: Does this involve fostering a clear understanding of the Quality System?
A: Yes, especially in customer recognition, both internal and external.
- N: So is this fairly commonly understood?
A: Yes, we talk about it in almost all staff meetings where we talk bout issues, then we also have smaller meetings. These meetings are used to talk about issues between offices, centers, etc. Everyone even the lowest levels understands the importance of the customer.
- N: A couple of things on Continual Improvement, do you have a role?
A: Certainly one of my roles is to foster that. Constantly striving to do things better. I think it is permeated far into the organization. MQC- Last meeting there was a team from customer owned property. A great team was put together to solve the problem. People doing jobs are the best ones to solve the problem. There was also a calibration problem where a team was put together.

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- N: You were talking earlier about internal customers, how do you see yourself as focusing on external customers?
- A: I find out and have directors reporting to me on how they are doing. We encourage trips to customers to find out how things are going. Face to Face and phone calls are important, not just surveys. PEBs with Subcontractors. I'm an advocate to senior management of those things that need to be done.
- N: What about objectives, how do you see yourself in establishing and evaluating Quality Objectives?
- A: I was not involved in establishing Quality Objectives. From the directorates, we got together and selected the top 3-5 things to satisfy the Customer, and then followed up.
- N: What is the first of the 5 quality objectives found in the Quality Manual?
- A: Satisfy the Customer
- N: One last question; Internal communication, effectiveness of the Quality System?
- A: Examples: Mgt. Council-how we're doing, showing metrics

Marshall Star- Occasional Article, occasional metrics

ID internal auditors-500 trained qualified auditors (learning)

Deficiencies posted

Date: 8/30/01
Shift: Morning
ISO Element(s):ISO-9000/2000 Procurement
Auditee Organization Code: PS30
Building: 4201

- N: You have procurement activities, how do we evaluate our contractors?
- A: We cover everything from small purchases to million dollar contracts.
- N: Those large contracts?
- A: I have one Award Fee Contract- we have meetings with them and a PEB Board evaluates their performance. PEB would have those records.
- N: Do you have these records?
- A: In basement of 4203, it is a restricted area would have to get permission.
- N: Do you remember the last evaluation?
- A: Would have to check schedule.
- N: What is reviewed in the PEB?

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- A: Business Plan, Technical, Gov't statements, Contractor statements
- N: What about other Purchases/
A: Services, such as security, P.O's generally lower than \$100 K
- N: Those suppliers are they evaluated also?
A: GSA-no, Off the Shelf-no, The PO has a place for checking Quality Sensitive issues which helps to provide guidance needed to be met.
- N: I want to see some records, can we?
A: Yes down the hall, but team leaders are out, I'm not sure where the records would be.
- N: I want to differentiate between Contractors, subcontractors, Suppliers, vendors...but it's time for your meeting do you need to go?
A: Yes, actually I'm already late.

Date: 8/30/01
Shift: Morning
ISO Element(s):ISO-9000/2000 Data Analysis
Auditee Organization Code:QS10
Building: 4202

- N: You have something to do with analysis of data?
A: Risk management, PRA policy
- N: So it sounds like you have a conglomeration of assignments. So you put together metrics, track different kinds of reviews, customer satisfaction? Which one do you likely do?
A: Process conformance.
- N: Which process?
A: Risk management
- N: Can you give me an example of process conformance?
A: It will take a while, I don't own the data, could I explain the process to you?
- N: So a metric you would have is the probability of success or failure. Can you give me an example?
A: ECLSS Racks-trying to convert wastewater into drinking water.
- N: In your evaluation of risk analysis, do you evaluate how effective you are in assisting them?
A: Only by how many people I've trained.
- N: Do we readily acknowledge that risk analysis is a value added step?

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A: Headquarters determined it was value added- no real metric, so data revealed that for every dollar invested in risk analysis, you get a twenty dollar return.

N: Someone did an analysis to prove this?

A: No someone wrote a paper.

N: Does writing a paper prove it?

N: How do you get the product measurement/stats?

A: Marshall board that review package before it goes to JSC. This review takes place to see if the documentation is complete.

N: Is this of the preliminary product?

A: Yes

N: What do you do when you find an error?

A: We receive an action item and must go work it.

N: What if.... Give me an example?

A: Letter that circles off board – presents letter (QS10-99-106)

N: What is the actual product?

A: Document – safety packing, presentation to Marshal Board then to Johnson. Flight Safety data package.

N: Do you ever get feedback?

A: We talk to the presenter – if there is a issue, we talk with the Payload engineer. Email is sent to board members.

N: Any need to go back and take action for what is left out.

A: Payload do whatever is left out. 45 days before the presentation, a safety panel review board meets and during that time we make any necessary changes.

N: Scenario – ...

A: Yes, but focus is on safety.

N: Does someone keep track of the action items – is there a part that...?

A: CFF – Certificate For Flight. Reliability depends on complexity of system. Most analysis are done by prime contractor. SMO police independent assessments.

Date: 8/30/01

Shift: Morning

ISO Element(s):ISO-9000/2000 Quality Objectives

Auditee Organization Code: QS

Building: 4203

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N: What is your job?

A: Developer of RADAR – a management tool divided into activity and projects. It's a test matrix. Showing system: List management with... Description of department (numbering), activities are listed on the left.

N: What are the color definitions?

A: Yellow, not working at the moment – management not needed.

N: What is red?

A: Hardware problem.

N: (looking at system) who wrote that issue?

A: (Employee name) reported an inspection oversight.

N: what part of organization do you work for?

A: Independent Assessment.

N: What do you do?

A: I do several things. Here is an activity matrix that keeps up with the tracking of issues. Tool is used to improve tracking. Later to help with tracking of how long it takes the organization to handle action.

N: Green means what?

A: Discussion of what the process is and how it changed. Development and development and quantitative metric's are available.

N: (looking at RADAR system still) What are S&MA metrics?

A: Nothing there because there are no problems.

N: What type of metrics are in S&MA?

A: This is used so that managers and see what the organization is doing.

N: Why did they thing of metrics?

A: Management thought if we had matrix, everyone should use it. Another matrix for managers to tell how well S&MA is doing with customers. Example what we do covering POP (budget).

N: (Auditor discussed concept of matrix)

N: Do you have a quality objective?

A: To satisfy the customer

N: What is your role with the quality policy? How do you ensure that you are meeting the objectives of your job?

A: I don't understand what you mean?

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N: (Discussion on difference in NASA personnel and contractors. Auditor discussed the issue of quality objectives) Perhaps they are not established at this level.

A: Marshal Strategic plan – 3. S&MA plan flow down. Auditee works on that for Marshall plan flow down into organization plan.

N: (Auditor discussed objectives and matrix's and what he was looking for.)

A: Center of Excellence. Objectives are found in the strategic plans. Safety has a good matrix. (Auditee showed safety web page with objectives, goals and metrix.)

N: This is what I'm looking for. This is good.

Date: 8/30/01

Shift: Morning

ISO Element(s):ISO-9000/2000 Quality Policy

Auditee Organization Code: QS

Building: 4203

These discussions occurred on Thursday morning prior to start of audits.

N: Quality Policy does not comply with ISO-9000/2000, there is no provisions for Continual Improvement and in a broad sense, one might be able to pull objectives into the policy, but both are required.

A: MSFC was aware and had developed a new policy, but management didn't want to change,(a policy was submitted to NQA, but no requirement to change was directed)

N: Policy is really the out front statement and improvement should be a part of it.

A: We have Marshall Objectives and Marshall Values, I had rather see actions instead of words.

N: Why not include the Marshall values in the Policy?

A: That might be a way, it would certainly cover many things.

N: Don't forget that words have meaning.