

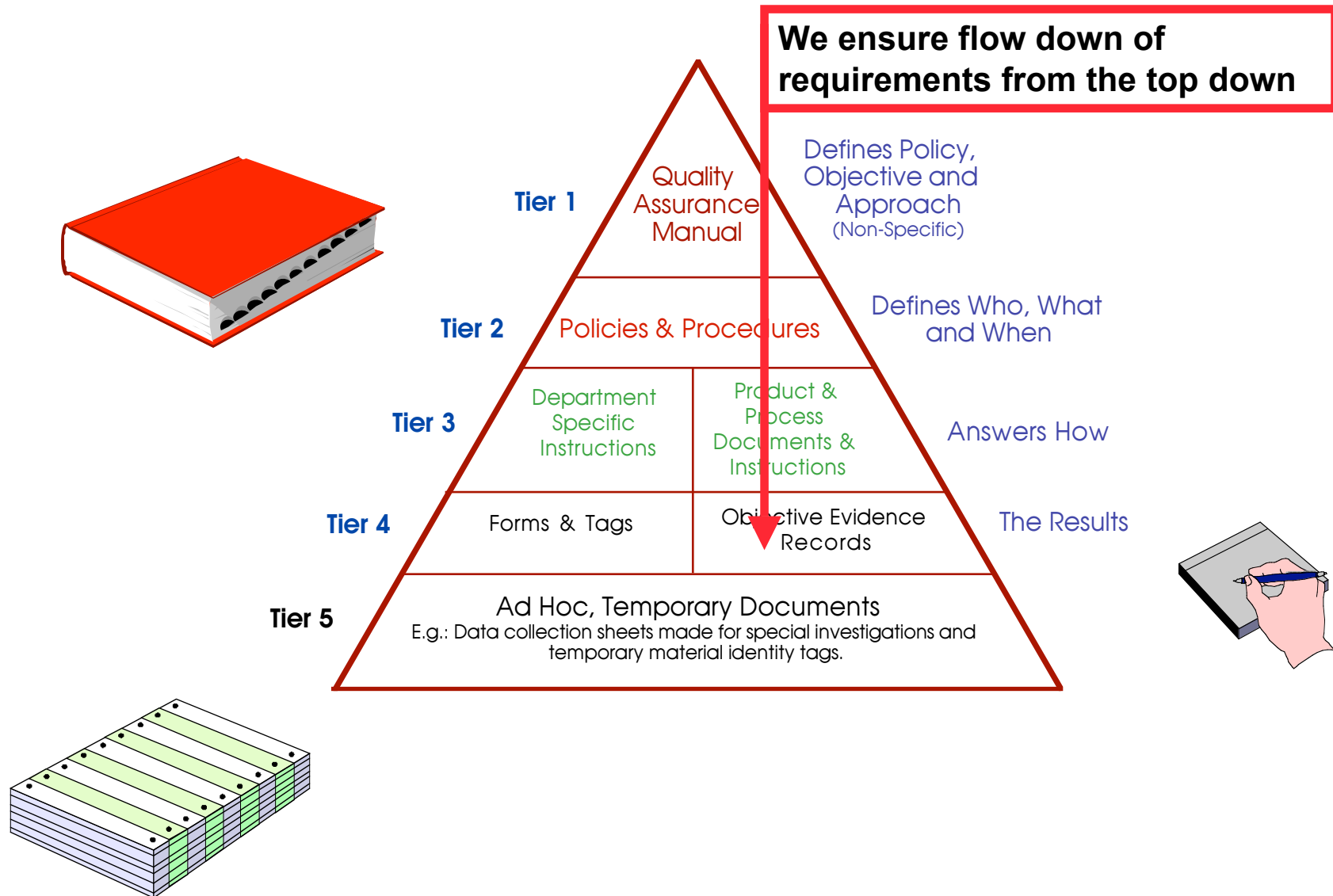
# Document Mapping

- There are 'levels' of documentation. In general terms we have the description of documentation in levels or tiers. As we learned earlier there are typically 4 tiers of documentation in an organization (excluding Ad Hoc documents).
- The top tiers normally guide the **content** and **focus** of the bottom tiers. In short, each successive lower tier is **DEPENDENT** upon the upper tier which defines it. This is said to be a 'Flow Down' of requirements.
- Higher level documents normally cite lower level documents. These citations are important as they form a 'trail' which can be followed. The top level documents tend to be general and to some extent vague while the lower level documents provide increasing detail.
- Sometimes the reverse also happens - lower level documents cite higher level documents internally. There is controversy as to whether this is 'good' practice. In any case, **requirements** do **NOT** flow up.
- Document mapping is more important now than ever as mature companies shift towards interdisciplinary (**cross-functional**) communication and operation. The old way was for departments to 'pass off' to another department. The new way causes everyone to be involved. In short, the rise of the importance of **Teams** requires documentation to be more integrated and consistent - and thus the need for control is greater. This is also the reason for the 'review' requirement.

# Why the Stress on Documentation?

- The majority of failures in both QS and ISO 9000 registration efforts has been, and continues to be, element 4.5.
- This issue is almost always evident from my first visit and I believe we all know this is a deep problem.
- Discontinuity is often discovered in the documentation. Even Quality Manuals are shown to have invalid links.
- Auditors will focus on the continuity and flow of documentation. **Inconsistencies can keep the facility from passing the registration audit.**

# Typical Documentation Tiers



# Mapping Aspects

- Mapping starts at the top with the QA Systems Manual. This may be a sector manual or it may be a local manual.
- **Validation** - When you map documents, you ‘verify’ links between documents (where one document cites another within it). The first thing to verify is that the cited document exists.
- A second aspect of mapping is to **verify that the content of the citation is relative**. This is to say that the links should ‘make sense’. If a citation in one document says something like “The **audit will be performed** in accordance with procedure ABC-1234” and procedure ABC-1234 is titled ‘**Calibration of Pressure Gages**’, it is evident that the link is **NOT Valid!** It does not make sense!
- After verifying that the linked document both exists and that the links are ‘relative’ and make sense, the document is mapped to the matrix relative to the mapping project. In our case the matrix is QS 9000 line items against the document ‘class’.

# Document Tiers & Classes

- It is uncommon to find 'Pure' documents. That is to say, it is not very often you find a document which one can clearly define as 'only' Tier I or Tier II or Tier III. In almost all cases there is some cross over. A good example is a Tier III document which becomes a Tier IV document. In this case we have a document which is a Tier III **Procedure** with some places which will eventually be filled with data - which will then make it a **Record** (Tier IV).
- The idea of a defined border and thus a pure document is fine, but is seldom actually seen. Normally the closest you will come is with the Quality Systems Manual. A QSM will normally be the 'purest' document you will find within any given system.
- Purity is to some degree a function of company size. A company with only 20 to 50 employees with simple processes will generally have little need for 'pure' structure. The necessity of structure in very large companies necessitates a more defined documentation structure in large part due to necessary overall complexity.
- Also consider the idea of document classes. Classes may include **production** documents, **engineering** documents, **Human Resources** documents, **maintenance** documents, etc. From this we should understand *there are usually several classes of documents in any given tier.*
- Document classes are related to document tiers. In most companies there are multiple document 'classes'. These classes are always Tier II or lower.

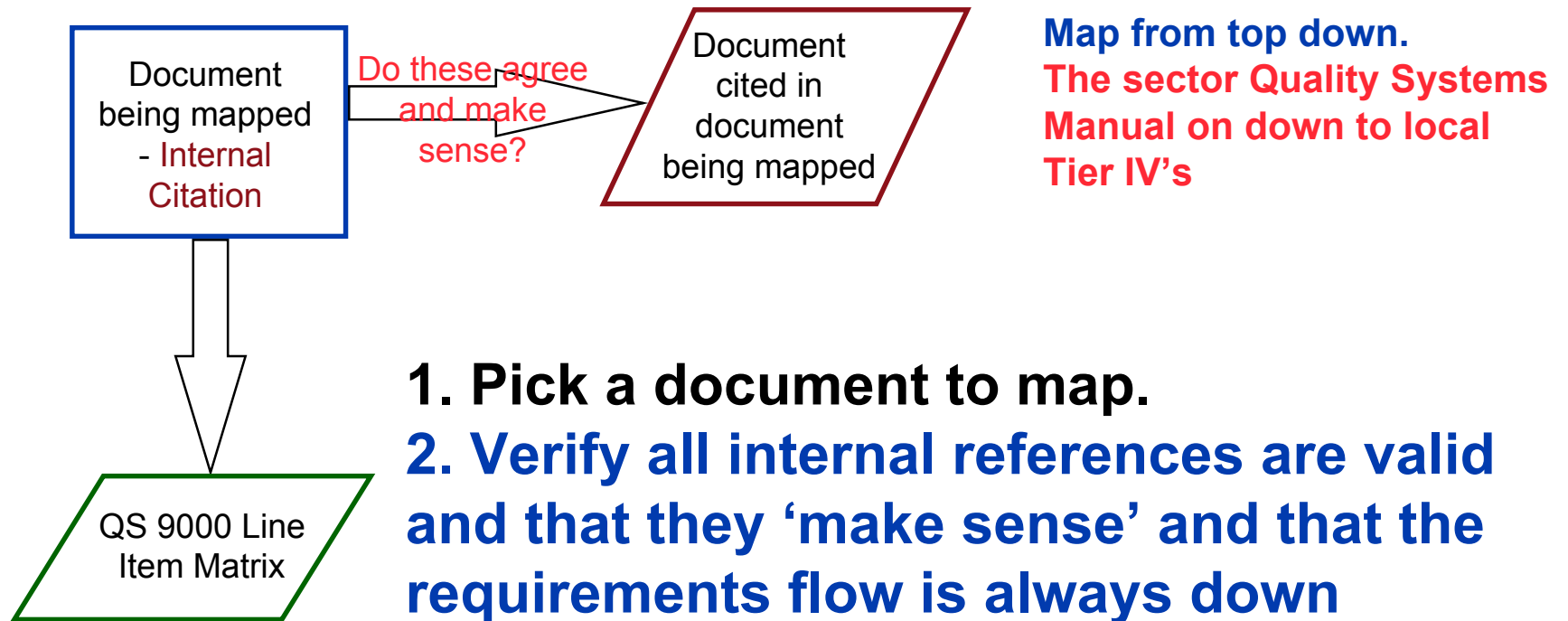
# Requirements Flow Down

1. A Flow Down requirement does **NOT** have to be specified by a reference. A Policy, for example, normally states something shall happen or be complied with. An example is a policy which states: “All employees shall comply with ESD policies and procedures” implies these exist without referencing them. This is definitely a flow down requirement.
2. It’s a good idea to provide references, but often this is not possible. In the case of sector policies, for example, there may be many locations which are expected to comply. We comply by providing ‘local’ documentation which fulfills the sector policy requirements.

# Flow Up vs Flow Down

- Not all documents have flow down requirements.
- Flow downs are normal.
- Flow downs generally reference lower level documents, but references are not mandatory.
- Flow Ups MUST **\*NEVER\*** be found.

# Mapping - Two Aspects



- 1. Pick a document to map.**
- 2. Verify all internal references are valid and that they 'make sense' and that the requirements flow is always down**
- 3. Enter the document number (the one being mapped) in the appropriate column and row of the QS 9000 Line Item Matrix.**
- 4. Examine matrix for redundancy.**



# QS 9000 Line Item Matrix Mapping

After verifying internal links for existence and continuity, one maps the document to the requirements matrix which checking for redundancy.

Matrix Class (Document Type) Listing is Descending Tier Hierarchy

Requirement	QS 9000	QA Man.	AIAG Ref.	Corp. SOP	PIO	12MRM-
Analysis and Use of Company-Level Data	4.1.5	X		SOP 4-15, SOP 8-13		
Customer Satisfaction & Customer Complaints	4.1.6	X				
<b>Quality System</b>	4.2					
General	4.2.1	X		SOP 4-9		
Quality System Procedures	4.2.2	X				
Quality Planning (per APQP & CP)	4.2.3	X	APQP	SOP 4-15		
Use Of Cross Functional Teams (per APQP & CP)	4.2.3	X				
Feasibility Reviews (per APQP & CP)	4.2.3	X				
Control Plans (Prototype, Pre-Launch & Production)	4.2.3	X				
PFMEA (per PFM&EA Ref. Manual)	4.2.3	X				12MRM96619A
Key/Critical/Special Characteristics	4.2.3	X				
<b>Contract Review</b>	4.3			SOP 3-47		
General	4.3.1	X				12MRM95827A

# Summary

*Mapping internal documents is:*

- **Verify** internal **reference documents exist** and that the **names and numbers 'make sense'**
- **Verify** that the link **subject matter makes sense** and that **requirements flow down**
- **Find** where the document **fits in the QS 9000 line item matrix**
- **Examine** matrix for **redundancy**

# Company X Documentation

- The **first task** I give a team is to identify what **CLASSES** (types) of documents exist within the facility.
- We know we have the following as a minimum, to address:
  - LIST OF LOCAL DOCUMENTATION CATEGORIES

# Conclusion

- The document mapping effort is extremely important.
- It **MUST** include **communication** with **sector** not only in regard to Quality Systems Manual inconsistencies, but at all documentation levels where there is a system, team and/or documentation interface requirement.
- It must be **detailed** and **precise**. **All** inconsistencies must be addressed!