Quality Assurance Challenges in the Seafood Industry

Copenhagen, 13-15 December 2006

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SEAFOOD SAFETY
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Best Practice of HACCP Audit System

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FOOD SAFETY ACTIVITIES

Risk Management

Develop FSO, establish guidelines and regulatory requirements

Audit in industry

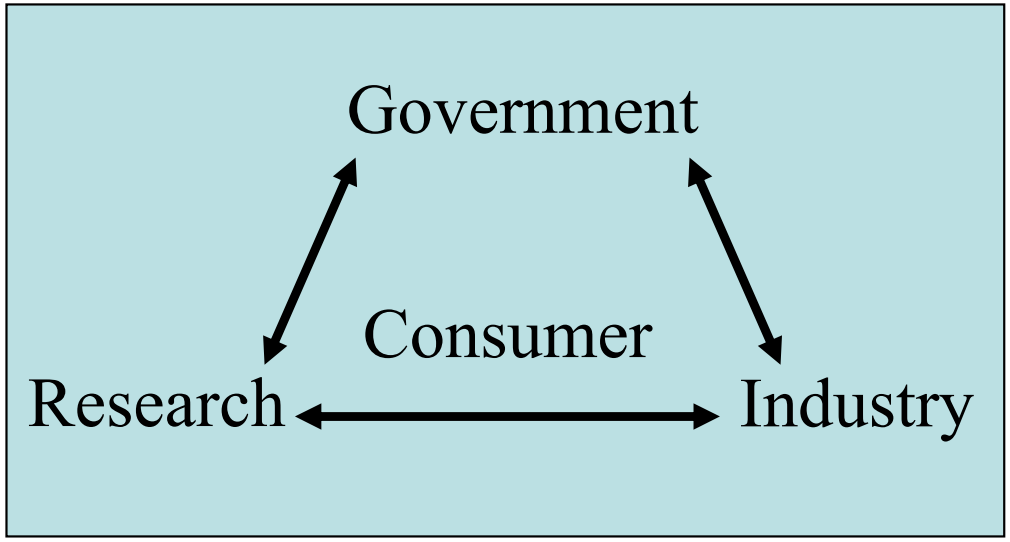
Monitoring of environment

Risk Assessment

Hazard characterization

Identification of CCPs, criteria and critical limits

Evaluation of new processing techniques



Arrows – **Risk Communication**

Develop risk Management programmes (HACCP, GMP, GHP), use of criteria

Audit

Definitions

- Audit
  - "a systematic and functionally independent examination to determine whether activities and related results comply with planned objectives" (Codex Alinorm 95/30A)
- Verification
  - "the application of methods, procedures, tests and other evaluations, in addition to monitoring, to determine compliance with the HACCP plan" (Codex Alinorm 97/13A)
- Validation
  - "obtaining evidence that the elements of the HACCP plan are effective" (Codex Alinorm 97/13A)
  - "a self assessment process used to ensure that the initial design of the HACCP plan is meeting its objectives" (OECD AGR/FI (98)10/FINAL)

Verification *vs.* Validation

- **VERIFICATION**
  - "doing the things right……."
- **VALIDATION**
  - "doing the right things……."

What, who and how often

- Define the scope of the audit
- Know who will do it
  - Qualified? Certified? Independent?
  - Knowledgeable on products, process, food safety and regulations
- Define frequency of audit
  - Depends on products and end use - RISK - but also
  - Quality and reputation of business
  - External accreditation e.g. ISO 9000

The process

Pre Assessment

- *Pre Assessment Document Review*

On site Assessment

- *Opening meeting*
- *On site verification of process flow diagram*
- *On site document review and observations*
- *Closing meeting*

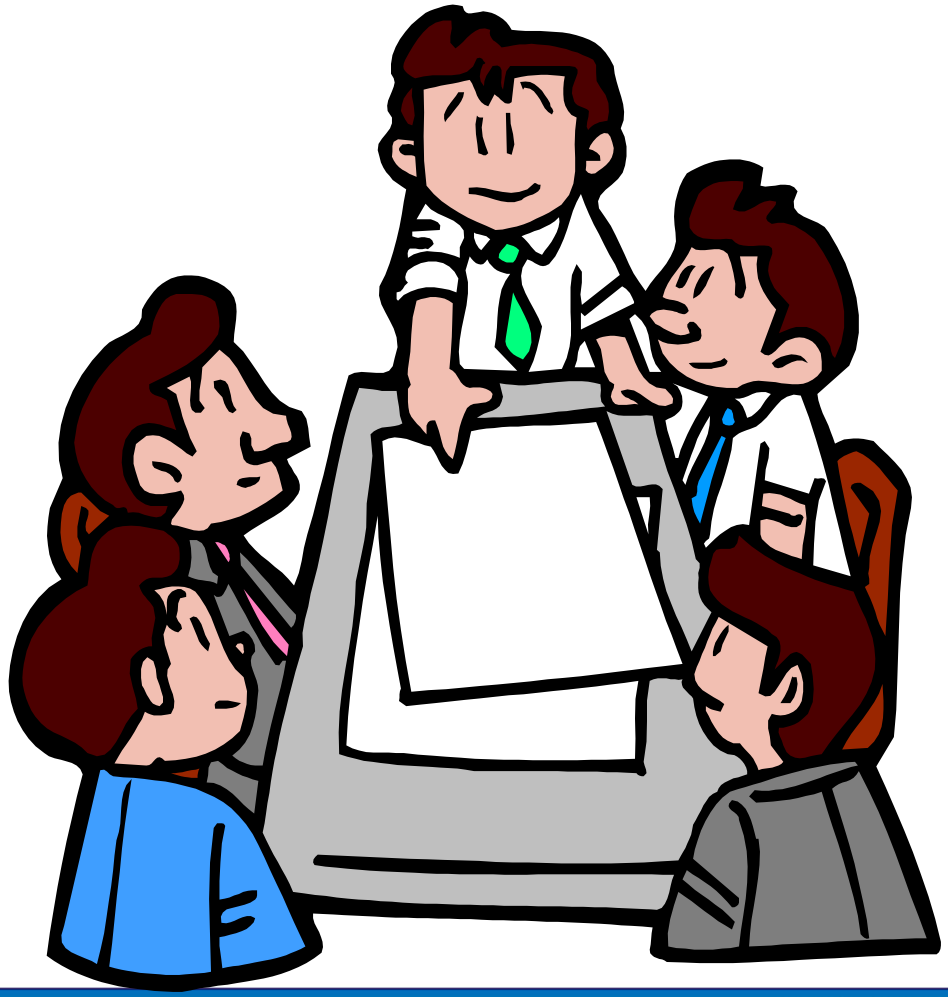
Post Assessment

- *Assessment Report*
- *Assessment follow-up*

Pre Assessment Document Review

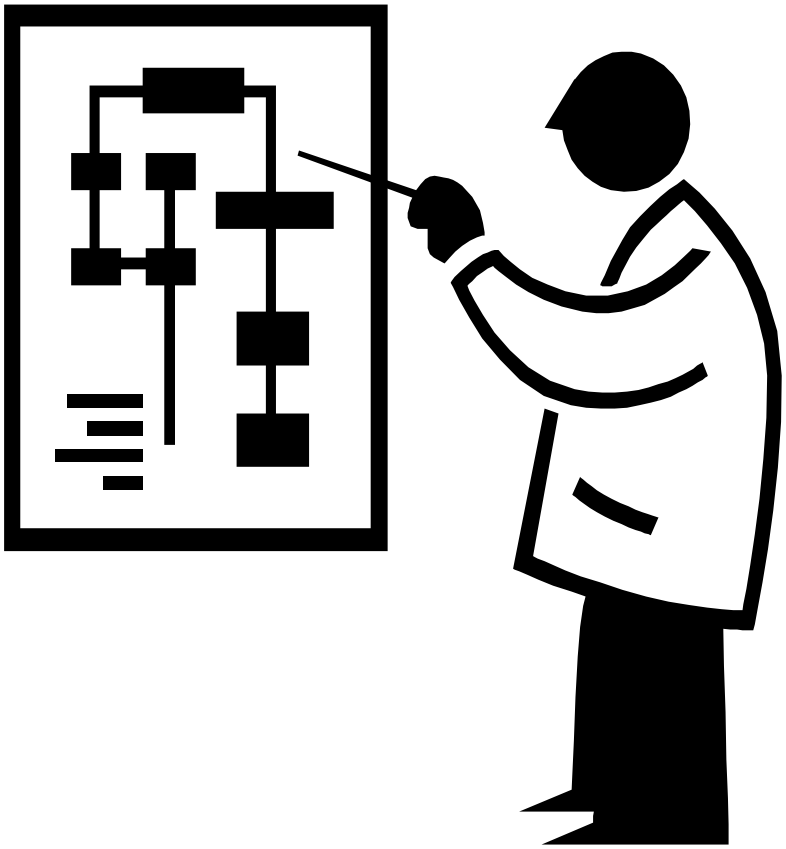
- *Receive from company ahead of the first visit*
  - *site layout plan*
  - *process flow diagram with location of CCPs*
  - *product specifications*
  - *HACCP plan including worksheets and records*
  - *Pre-requisite plans including worksheets and records*

Opening meeting



- *Entire audit team should be at the meeting.*
- *Audit team leader responsible for agenda (ahead of the meeting)*
  - *Scope*
  - *Process*
  - *Schedule*
  - *Amenities needed (meeting room, office space, etc.)*

On site verification of process flow diagram



- Does the process flow chart provided match to the actual situation in the factory?
  - watch
  - listen
  - ask questions

On site document review and observations

- *Product and ingredients specifications*
- *Previous audit reports and HACCP meetings*
- *Assessment of pre-requisite programmes and functions (form)*
- *Assessment of HACCP programmes and functions (form)*
- *HACCP control chart verification*

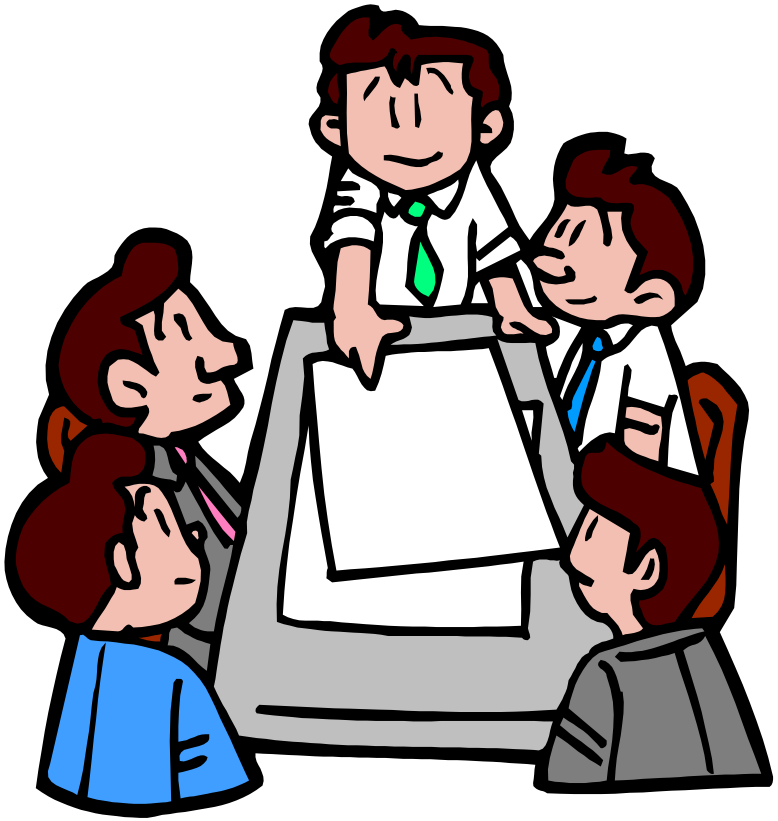
Using the form

A *excellent, good or only minor deficiencies (no safety risk)*

B *major or serious deficiencies, which could lead to a safety risk if not controlled. Any condition or situation rated as a B requires a plan or programme for rapid improvement. Repetitive or cumulative B-ratings can lead to a critical situation.*

C *an unacceptable or critical situation representing a safety risk. Any C-rating requires immediate response and corrective action*

Closing meeting



- Prior to meeting
  - Audit team defines the findings (significant violations)
- During meeting
  - Present the findings from the audit to responsible senior managers
  - Conclude with summary of facts - positive and negative
  - BOTTOM LINE - does the system work?
  - DO NOT RECOMMEND!

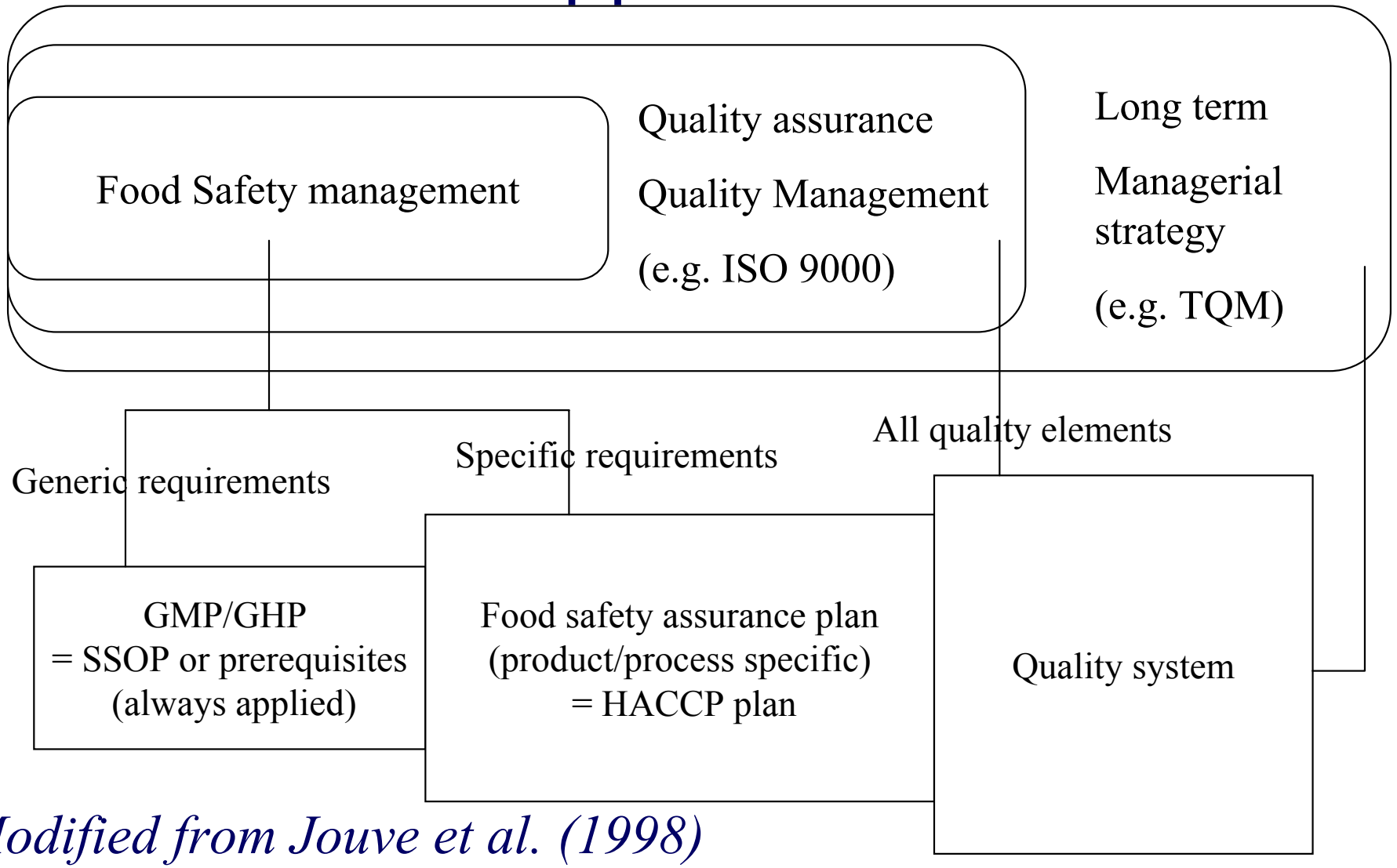
Assessment Report

- It is the final communication of the audit
- It should be issued within a reasonable time after the exit meeting.
- The written report (2 to 5 pages) should contain:
  - Introduction
  - Overall summary
  - Adverse conclusions (findings)
  - Noteworthy accomplishment (positive practices)
  - Attachments

Assessment Follow Up

- Key role of assessor (internal, supplier, Government) is to assure that non-compliances are "closed off"
- Completed non-compliances should be verified as effective as soon as possible after corrective action has been taken.

Food safety tools: an integrated approach



Modified from Jouve et al. (1998)

The pre-requisite programme

Definition: Practices and conditions needed prior to and during the implementation of HACCP and which are essential for food safety *(WHO 1999)*

SSOP - Sanitation Standard Operating Proceedures:

The documented GMP for hygiene and sanitation required to meet the regulatory requirements for food control in the USA.

The pre-requisite programme

The processing plant

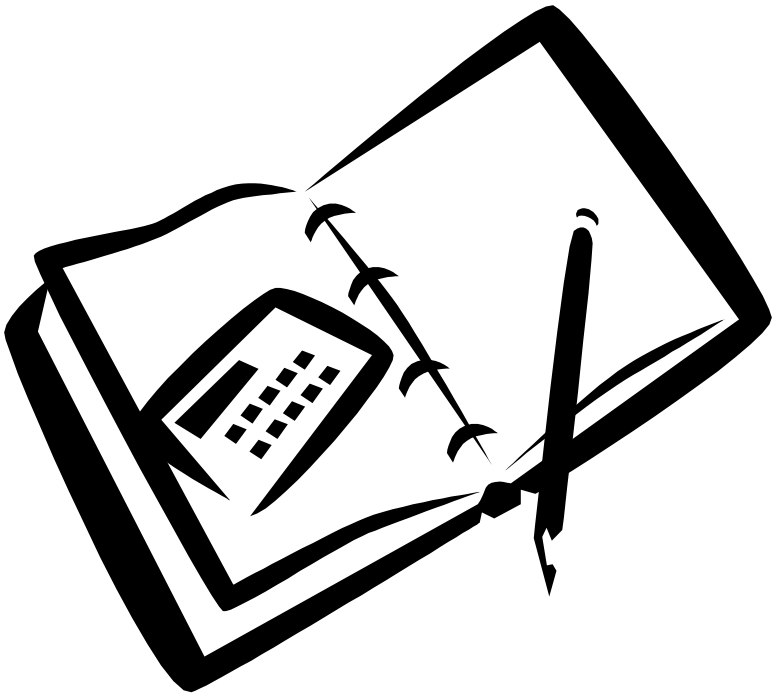
- Conditions of premises, lay-out, flow of goods
- Facilities: water, ice, steam (quantitative conditions)
  - Water treatment systems (Chlorination)
  - Sanitary facilities and installations
- Equipment: Boxes, containers, machinery

The pre-requisite programme

Operational conditions and proceedures

- Safety of water and ice
- Cleanliness of food contact surfaces
- Personnel hygiene and health
- Prevention of cross contamination compounds
- Maintenance of facilities for personal hygiene
- Protection of food from adulterants
- Waste management
- Recalls and traceability
- Training
- Pest control
- Proper labelling & safe storage & use of toxic compounds
- Transportation and storage

Standard format



- Criteria – what is required
- Monitoring – what, how, when and who
- Corrective actions – if something goes wrong
- Records – physical evidence
- Verification – check that it works

Safety of water and ice

CRITERIA

- Water must pass potability standards
  - Total coliform, faecal coliform, faecal streptococci <1/100 ml
  - Sulphite red. clostridia <1/20 ml
  - APC (22°C) 10^3 / ml guide level
  - APC (37°C) 10^2 / ml guide level
  - Residual free chlorine 2-5ppm

Safety of water and ice

MONITORING

- What
  - Public water supply – official records from the water works
  - Own water supply:
    - Residual chlorine
    - Microbiological contamination
- How
  - Check records
  - Microbiological testing
- When
  - Daily (Chlorine)
  - Monthly (Micro)
- Who
  - QC Supervisor

Safety of water and ice

CORRECTIVE ACTIONS, RECORDS AND VERIFICATION

- Corrective action
  - Actions to be taken when criteria is exceeded must be outlined, e.g. Adjusting water treatment, stop of production if water is contaminated, search for source of contamination
- Records
  - Records of all sampling, testing and actions must be kept for two years
- Verification

Audit of the HACCP programme

- The HACCP team
- Flow diagram
- Product and ingredient specifications
- Product end use difined
- The seven principles