



PDCertificate

This is to certify that

Ing. Jan Štejfa

has completed the NIF - Czech Cleaner Production Center
240 hours post graduate educational programme in strategic planning, cleaner production
and waste minimization assessment.

The Training Course was held at the Cleaner Production Training Center
at the University of Chemistry and Technology Prague, Institute of Chemical Technology (ICT).

The candidate has successfully completed project work in a production factory
with an approved project report. Based on the quality of
this work the candidate is awarded the

Professional Development Certificate (PDC)

in

*Environmental Management and Cleaner Production in Industry
Oslo/Prague*

Praha 25. 4. 1995


Project leader NIF


Director CPC


Project leader ICT



Norwegian Society of
Chartered Engineers



Inst. of Chem. Technology

ČESKÉ CENTRUM ČISTŠÍ PRODUKCE
CZECH CLEANER PRODUCTION CENTER (CPC)



GOALS OF THE PD-CERTIFICATE

- to establish an internationally recognized certification of leaders in Industry and Government with the purpose of securing economic growth in a challenging and sustainable environment
- to close important gaps in competence among engineers within areas of high priority in the society
- to stimulate continuing post graduate education and training of engineers.

Goals of the PD-Certificate in Environmental Management and Cleaner Production in Industry

- to understand the fundamentals of market economy and business analysis
- to give the participants high competence in organizing cleaner production innovation projects in industrial enterprises
- to enable the participants to carry out waste minimization assessments in production industry as part of strategic business planning

I. GENERAL PROGRAMME

A. MARKET ECONOMY (15 HOURS)

1. Introduction
Fundamentals of a decentralized market system
2. Technology and production functions
3. Cost functions and cost concepts
4. Market structure

B. BUSINESS ANALYSIS AND STRATEGIC PLANNING (25 HOURS)

1. Introduction
Strategic management, plans, operations, results
2. Organization and management
Authority-delegation and decentralization
3. Project management
Resources and responsibilities in a pollution prevention project
4. Economic basis, capital-investments
Operation costs, financial costs, profits rate of return, cost-benefit analysis

5. Product and process profitability contribution
Pricing of products. «Polluter pays» principle
6. Key figures for monitoring successful operations and management

C. WASTE MINIMAZATION ASSESSMENT (25 HOURS)

1. Introduction
Principles for waste minimization/
cleaner production and life cycle management
2. Experiences with waste minimization in industry
3. Methods and procedures for waste minimization
4. Reports from case-studies in companies
5. Summing up with preparation for the interactive part of the programme

II. INTERACTIVE PROGRAMME

D. WASTE MINIMAZATION WORK IN FACTORY (50 HOURS)

1. Management commitment
Set program goals and organize task force
2. Collect process data
Generate options and select the best
3. Prepare report for the group work
4. Visit by Industrial Advisor

E. PLENARY SESSION AND GROUP WORK I (30 HOURS)

1. Plenary session waste minimization techniques
2. Group work factory cases
3. Project progress/ 3 days school session

F. FEASIBILITY ANALYSIS IN FACTORY (50 HOURS)

1. Technical evaluation
2. Economical evaluation
3. Priorities for implementation
4. Prepare report for final group work
5. Visit by Industrial Advisor

G. PLENARY SESSION AND GROUP WORK II (30 HOURS)

1. Plenary session - reports from case project
2. Group work - factory cases
3. Final report with recommended options for implementation
4. General preparations for implementation/
3 days school session

H. IMPLEMENTATION IN FACTORY

Action plan with clear time schedule. Project calculations and division of responsibilities for follow-ups.

The action plan will usually consist of:

1. Housekeeping actions with zero or minor investments. Implemented continuously during the interactive programme.
2. Process modifications, recycling and reuse actions with very low investments. Funded from operation budget (no loans). Payback periods on investments less than 1/2 year after project report is approved.
3. Action plan for heavier investments requiring loans for implementation. Usually payback periods of less than 1 1/2 year and internal rate of return higher than 10 % above bank rate. Implementation during next 1 - 5 years.

I. PLENARY SESSION AND PROJECT EVALUATION

1. All project reports are evaluated by Norwegian industrial Advisors or authorized company advisors and teachers in the programme. This is done not later than 3 months after session G is completed.
2. All candidates are interviewed (oral exam) by the project managers before awarded the diploma.

J. FOLLOW UP ACTIONS IN FACTORY

After having received the PDC certificate, the candidates and their project companies will be followed up concerning the continuation of WMA in company and the implementation of the action plan.

