

# NICOLE WORKING GROUP REPORT: WG 1, JANUARY 1997

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## Workshop on Site Assessment and Characterisation

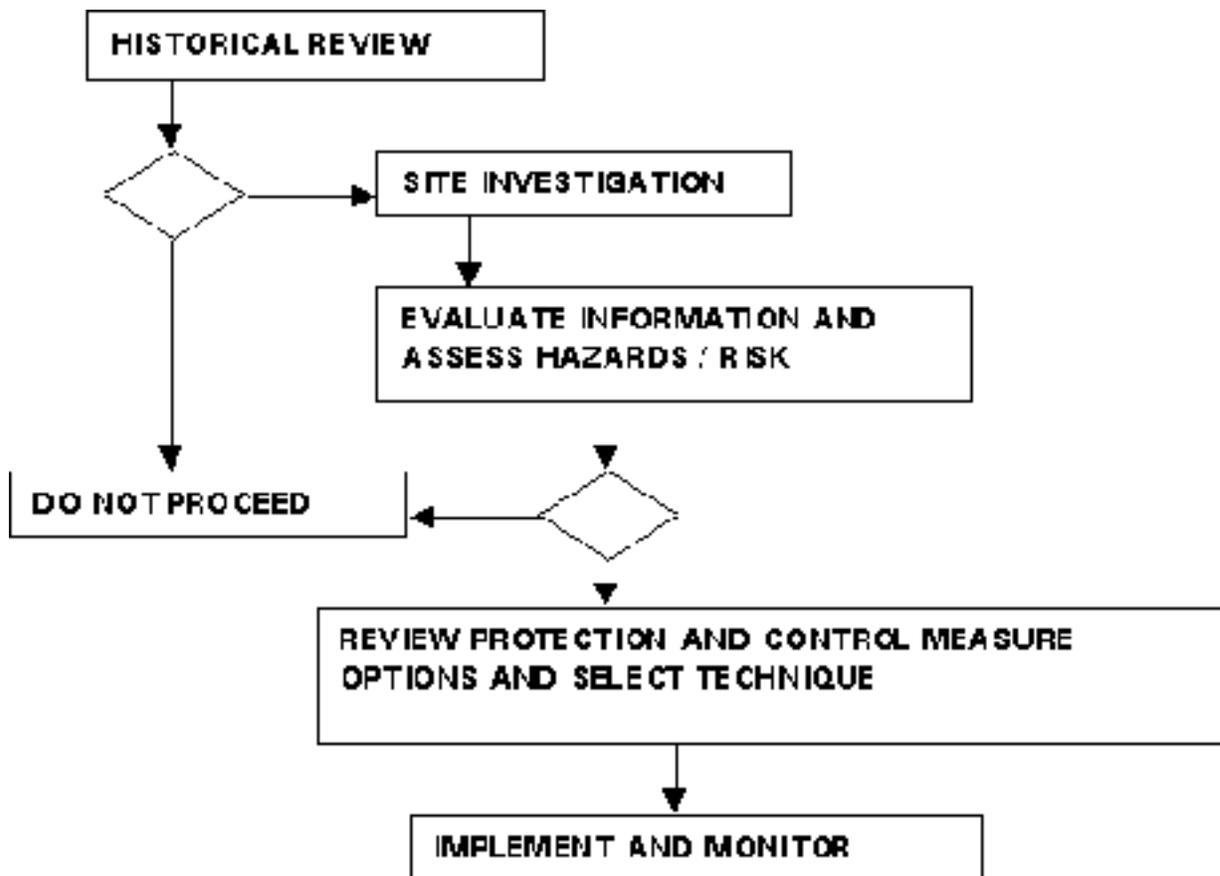
*The second workshop of NICOLE was held in the Netherlands on 22 and 23 January. Over 60 participants spent two days at the TNO-complex in the town of Apeldoorn to exchange information and ideas related to site assessment and characterisation. A large number of research needs was identified and discussed during parallel workgroups of scientists and members from industry. These ideas were then carefully prioritised during the Round Table Discussion of the Scientific Advisory Group and the Industry Subgroup to be presented in the final plenary session. Ultimately, the top-5 research items were selected and small groups were formed to take further action on each of those items. Industry members and scientific experts are now working together to produce joint research proposals. Progress reports will be presented within a few months.*

### **Industry approaches**

After Prof. Wim Harder, the scientific director of TNO, had welcomed the participants to the Environmental Technology Valley, the morning session started off with a presentation by Rae Crawford from Esso. On behalf of the CONCAWE group he outlined their proposed approach to risk-based assessment of contaminated sites and summarised the current status and future plans. He also shared with the NICOLE community their main concerns, that are within the process of communication and consultation. Mr. Crawford invites members of NICOLE to present views on how best to achieve the aims of CONCAWE, particularly in relation to their individual situations.

Martin Bell from ICI Polymers and Chemicals Ltd., and chairman of the NICOLE Steering Group, presented his view on the site assessment process and the role of historical reviews. The following diagram, which visualises the site assessment process, is drawn from his presentation. An essential piece of output of a historical review is the so-called conceptual model, a flexible tool to design the site investigation.

**The site assessment process (taken from Martin Bell's presentation)**



The approach presented by Akzo Nobel differs from many other approaches because of the limited time available. Dick Kruisweg explained how he and his colleagues manage to assess the soil and groundwater quality at a site within a few weeks time. Their site assessment is part of a Due Diligence Assessment and needs to give sufficient information to indicate remediation needs and costs.

A comprehensive overview of recent developments in field techniques was given by Martyn Lambson of BP International Ltd. The aim of this presentation was to summarise work done, noting practical application limitations and recognising areas where further development is warranted.

### ***Scientific overviews***

The scientist took over after with a series of presentations focused around the themes of data requirements and data collecting. Michel Jauzein from IRH presented some of the output of the workshop in Nancy during his talk on data requirements for risk assessment. Data requirements also played a central role in the talk of Huub Rijnaarts from TNO. Using several maps from a case-study, he demonstrated how data on redox conditions can be used to advantage when designing bioremediation strategies. Based on experiences in the NOBIS-programme, he shared with the participants his ideas on which scientific innovations are required to further optimise this type of solution.

Frank Lame from TNO presented an overview of existing protocols and standards for site assessment and explained why and how these were developed in the Netherlands. Similar developments now take place in a European context and this is of particular interest to NICOLE. The draft version of an ISO standard for industrial sites was made available to all participants and was later discussed in more detail during the meeting of the Industry Subgroup, thus enabling a joint response from NICOLE. A clear example of how information exchange between scientists and industry can be very beneficial!

## ***Identifying and prioritising R&D needs***

The objective of the workgroup sessions in the afternoon was to further explore the ideas and suggestions presented in the morning. In constructive discussions between scientists and members from industry research and development needs were identified around three themes: natural attenuation, data requirements and data collecting. The workgroups were chaired by industry members who also gave short presentations of the output during the final plenary session, allowing everybody to learn and comment on the R&D needs identified by each of the groups. The final stage of this selection process was entered the next day, when the Scientific Advisory Group and the Industry Subgroup sat together at a Round Table to break down the long list of ideas to a well-balanced and fully supported top-5:

### **Top 5 Research Items on Site Assessment & Characterisation**

1. A 'good survey practice' framework (including optimisation of sampling strategies, review of geostatistical methods, relationship between cost & reliability)
1. Rapid low cost techniques for preliminary characterisation
1. Data on bio-availability and relationship with time & changes in the external environment
1. Acceptable protocols for natural attenuation
1. Cheaper alternatives to monitoring wells & the development of monitoring procedures

During the closing session all participants were given the chance to participate in one of the groups that were formed, a chance that many of them took enthusiastically. Each of these groups will further explore one of the top-5 research items and produce a project outline before the next workshop in Brighton, 28-30 May. The next step will then be to bring together the right partners and to start working on each of the research items that will help us find better ways to manage contaminated land.