ENVIRONMENT AGENCY IPPC PROJECT
OPERATIONS WORK PACKAGE

SUMMARY REPORT ON INTEGRATED POLLUTION PREVENTION & CONTROL (IPPC) TRIALS

IPPC PROJECT TEAM

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Acknowledgements

This report is a summary of eight IPPC permitting trials. The IPPC Project Team wish to record their thanks to all involved in running the trials - industrial applicants, their trade associations and Environment Agency staff - all of whom took part in a positive and effective manner. Without their input a successful conclusion to the trials and some important early learning on the operational aspects of IPPC would not have been possible

PART 1

Summary

This summary and the report that follows are written for staff of the Environment Agency ('the Agency') and industries that will be regulated under IPPC. Eight permitting trials took place in the period December 1998 to March 2000. This report is divided into two: Part 1 a summary of the permitting trials conducted and Part 2 the individual reports produced at the end of each trial.

The IPPC permitting trials have been extremely useful in preparing for the implementation of IPPC in England and Wales. They have:

- Tested the Agency's knowledge, preparedness and tools and procedures.
- Similarly tested industry's knowledge and preparedness across a range of sectors.
- Ensured that one team in each Agency Region has had hands on experience with an IPPC application and permit.
- Shown that the Account Management approach can work and that the size of the team should vary with the installation.
- Given a focus to the Agency's comments on the IPPC Regulatory Package.
- Focused discussions with statutory consultees, NGOs (non-governmental organisations) and government departments.
- Allowed industry to comment on the Agency's guidance as it was developed.
- Assisted industry in estimating the resource implications of IPPC and informed the Agency's validation of its workload assumptions.
- Shown that pre-regulatory partnerships between industry and the Agency can work well and should be encouraged.
- Provided a start point for IPPC trials by the SEPA, the Northern Ireland Environment and Heritage Service and local authorities.

The trials were not able to test:

- Disaggregated time spent on applications.
- Administrative systems for processing applications.

All eight trials were worthwhile. The scoping trials, where rough and ready applications were received and similarly rough and ready permits drafted, made particularly effective use of time. We commend trials, particularly scoping trials, to any similar Agency project.

1. Introduction

1.1 The audience for this report includes the Agency's staff, industries that will be regulated under IPPC, government departments and members of the public. The report is divided into two parts: Part 1 is a summary of the permitting trials conducted and Part 2 contains the individual reports produced at the end of each trial.

1.2 Integrated Pollution Prevention and Control (IPPC) is being introduced in England and Wales as a result of European Directive 96/61/EC. The Directive is principally concerned with controlling pollution from those industries that are generally regarded as having the greatest potential to pollute.

1.3 The Pollution Prevention and Control Regulations will assign regulation of many of these industries to the Agency. As part of its preparations for the introduction of IPPC, the Agency decided to conduct a series of permitting trials. The trials were intended to give experience to the Agency's Area-based staff and to involve a cross section of industry.

1.4 Eight trials were conducted. The first two were scoping trials to identify any major difficulties. The next two trials were for industries that were completely new to any similar or associated regulatory regime. The final four trials were intended to go into more depth and be very close to a real permitting process. The eight industries chosen were varied and we tried to involve the trade association.

1.5 The aims of the trials were to

- Gain experience of IPPC permitting.
- Highlight deficiencies in the permitting process.
- Assess the permit structure.
- Assess the procedures involved in producing the permit.

Annex 1 explains the rationale for the IPPC permitting trials in greater detail.

2. Details of the Trials

2.1 Introduction

2.1.1 The IPPC Project facilitated eight trials, one in each Environment Agency region. A spread of IPPC sectors to be regulated by the Agency (A(1) installations) was selected. Figure 1 lists the trial operators and their IPPC installation types and figure 2 shows the location of the trial installations.

Figure 1. IPPC Part A(1) Trials.

No	Operator	Trial site type
1.	Shanks. Waste Solutions	Waste Management –Landfill
2.	Lawson Mardon Star Ltd	Metal Production and Processing - Aluminium Smelting etc
3.	Grampian Country Chickens (Rearing) Ltd	Other Activities – Poultry Farm
4.	Birds Eye Walls	Other Activities – Food Production
5.	Contract Chemicals (Knowsley) Ltd	Chemical Industry
6.	Onyx Hampshire Limited	Waste Management – Incineration
7.	Wessex Water plc	Waste Management – Waste Treatment
8.	Aylesford Newsprint Ltd	Other Activities – Paper Production

2.1.2 The trials were run by Agency staff working in partnership with industry. The trials can be divided into 3 types.

- Scoping trials (numbers 1 and 2): see paragraph 2.1.3
- Newly regulated trials (numbers 3 and 4): see paragraph 2.1.4
- Development trials (numbers 5, 6, 7 and 8): see paragraph 2.1.5

2.1.3 Scoping Trials

The applications received in the scoping trials suggested that, without intensive support from the Environment Agency, industry would be unable to make applications that the Agency could process.

2.1.4 Newly Regulated Industry

Although the newly regulated industries were enthusiastic to participate in the trials, the applications received fell short of what the Agency is likely to need. Each sector will need its own guidance.

2.1.5 Development Trials

These can be sub-divided into industries previously regulated by Integrated Pollution Control (IPC) (trials number 5, 6 and 8) and Water Quality Consenting (trial number 7).

Industries from an IPC background produced applications closer to the standard that the Agency is likely to need.

The sewage treatment works' application was sound on water discharges but deficient in other areas.

Figure 2. The location of the eight IPPC permitting trial installations within the Environment Agency's regions.

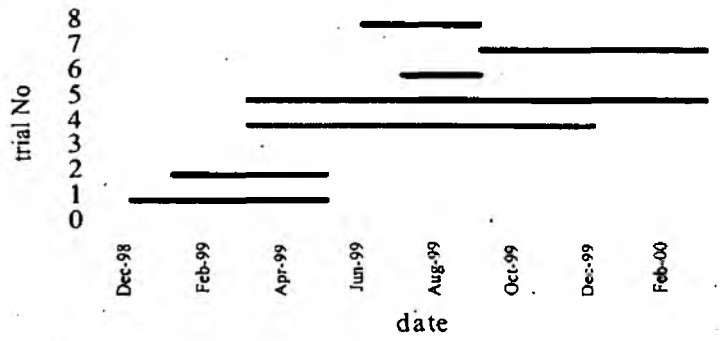

Figure 3. Duration of the Trials

2.1.6 Duration of the Trials

The trials almost all ran beyond the time limit originally set as they were interrupted by day to day operations. The duration of each trial was individually determined. Figure 3 shows the spread of time over which trials ran.

2.2 Previous Experience Relevant to IPPC

2.2.1 All the trial applicants, except trial 4 (the food factory), already held some type of Agency environmental pollution permit. Figure 4 lists the installations and their existing permits.

2.2.2 The aim of IPPC is to prevent or, where that is not practicable, to reduce emissions to the air, water and land so as to achieve a high level of protection of the environment as a whole. Operators were generally supportive of this aim. Several operators gave examples of regulatory gaps that will be beneficially filled by IPPC.

2.2.3 Operators wrote their trial applications by relying on their previous experience of regulatory controls and of making applications. However, compared to its predecessor regimes IPPC demands wider thinking by the applicant about all environmental media, noise, energy usage, raw materials and state of site. This created challenges for both operators and the Agency.

	Operator (Trial site details)	Environment Agency Region	Existing pollution permits on site	Trade Organisation	Account Manager & permit author same person?
1.	**Shanks. Waste solutions** (Waste Management –Landfill)	Anglian Region	Waste Management: landfill Waste Management: treatment plant Water Industry Act: water treatment plant Water Quality: discharge consent	Environmental Services Association	-
2.	**Lawson Mardon Star** (Metal Production and Processing – Aluminium Smelting etc)	Midlands Region	IPC: aluminium furnaces Local Authority Air Pollution Control: coating processes Waste Management: landfill Sewerage undertakers consent	Aluminium Federation	No
3.	**Grampian** (Other Activities – Poultry Farm)	Environment Agency Wales	Water Quality: discharge consent	British Poultry Meat Federation	-
4.	**Birds Eye Walls** (Other Activities – Food Production)	North East Region	Sewerage undertakers consent Water Quality: discharge consent	Food and Drink Federation	No
5.	**Contract Chemicals** (Chemical Industry)	North West Region	IPC: batch organic chemicals production x 7 processes, including an "envelope".	Chemical Industries Association	Yes
6.	**Onyx** (Waste Management – Incineration)	Thames Region	IPC: incineration	Energy from Waste Association	No
7.	**Wessex Water** (Waste Management –Waste Treatment)	South West Region	Water Quality: discharge consent Waste Management: waste treatment	Water UK	Yes
8.	**Aylesford Newsprint** (Other Activities –Paper Production)	Southern Region	IPC: paper and pulp and boiler x 4 processes	Paper Industry Technical Association	Yes

Figure 4. Summary table of data from the eight IPPC trials

2.2.5 The eight trials tested Agency tools and proposed activities as listed in Figure 5.

Trial No	Team working	Account management	Awareness raising	Agency understanding of new sector	Operators Understanding	Amount of Guidance needed	Definition of installation	Style of permit	Permit	Guidance package/ Common issues guide	Process handbook	Technical guidance Poultry	Technical Guidance Pulp & Paper	IPC QMS procedures
Trial 1	✓		✓		✓	✓	✓	✓						
Trial 2	✓	✓	✓		✓		✓	✓						
Trial 3	✓		✓	✓	✓	✓			✓			✓		
Trial 4	✓	✓	✓	✓	✓				✓	✓	✓			
Trail 5	✓	✓	✓		✓		✓		✓	✓				
Trial 6	✓	✓	✓		✓				✓	✓	✓			✓
Trial 7	✓	✓	✓		✓		✓		✓	✓				
Trial 8	✓	✓	✓		✓		✓		✓	✓			✓	

Figure 5. List of tools and activities tested in eight trails

2.3 End of Trial Reports

2.3.1 All the trials have produced an end of trial report. These form Part 2 of this report. Some of the reports were written by the participating Project Team member. Others were produced as part of the trial by the Region. The format of the trial reports therefore reflects the areas considered important in each trial. These areas depended on the industry in which the trial was being conducted and the adequacy of the guidance the Agency could provide. Early trials had little guidance; later trials had more, but still not the full IPPC Regulatory Package.

2.4 Stakeholders

2.4.1 To explain its approach to IPPC the Agency met, during Autumn 1999, a range of stakeholders: some statutory consultees; DETR branches; and selected non-governmental organisations (NGOs). The trials provided a useful context for these meetings.

2.4.2 In addition, to broaden the learning from the trials all applicants were asked to involve their trade body. Figure 4 lists the trade bodies involved in the various trials.

2.4.3 The trade bodies managed information dissemination competently. Operators respected Agency requests to keep developing policies and procedures confidential. The Agency is taking similar care in the dissemination of trial reports and therefore is not making the trial applications or the resultant trial permits public.

2.4.4 Once the trade bodies were involved, the IPPC Project was mentioned in journals and briefing notes. Those involved in trials (industry and Agency) have also given presentations based on the learning from the trials. Sometimes Agency and industry personnel appeared on the same platform. An example of this was the Chemical Industries Association (CIA) conference *The Practical Implication of UK and EU Environment Legislation in* Autumn 1999.

3.0 Findings of Trials

3.1.1 Permit application and determination. The composition of these teams was largely based on the Environment Agency's experience of what was likely to be encountered at the installation. The teams' sizes varied considerably. The larger teams reflect the use of the trial as a training/ learning exercise, more than the complexity of the effects on the environment from the installation. In live operation, team size including the Account Manager is anticipated to be around four people.

3.1.2 In all trials one individual took the role of principal permit author, with other members only having input in their own specialised areas.

3.1.3 Drawing up the resultant conditions within the permits demanded a high degree of professional judgement and balancing between the views of the various team members to ensure the effect on the environment as a whole would be reduced to a minimum. A pick list of standard conditions was rarely appropriate: each case was adjudged against available guidance, any proposals from the operator, and environmental effect. Particularly difficult situations could use a large amount of specialised resource within the Agency.

3.1.4 The role of Account Manager, which was not formally established until after all the trials had been initiated, was utilised to various degrees. This was largely dependent on the size of the permitting teams. In some instances the Account Manager and the principal permit author were the same person. This was because they generally had detailed knowledge of the installation. This reduced the use of Agency resource by minimising learning, but could miss any advantage of the overall installation being considered by a fresh pair of eyes. The use of account management is shown in Figure 5.

3.1.5 Prior to the trials, operators were contacted initially by the normal site contact. In actual operation, the Agency will need to establish a system to identify site contacts where no contact exists at present (as was the case at trial number 4).

3.1.6 The IPPC Regional Groups were only being set up in most regions so they were not able to carry out the full overseeing role assigned in the terms of reference.

3.1.7 In all the trials, the emphasis at the Area level was on the technical determination of the application. "Administrative" staff were not fully involved. Although tested separately, computer systems were not live tested. We have not tested the IPPC Project's assumption that, in the short term, a slight modification of current administrative resource allocation can encompass IPPC.

3.2 Industries

3.2.1 The industries new to IPPC-type regulation - waste, food and intensive poultry rearing – were initially less well prepared. At first the information that these sectors provided was limited. As the trials developed it became apparent that some of the information that the Agency was requesting was often available in some form. The Agency was over-ready to make assumptions about the operators' knowledge without always ensuring that the operator was aware what information was being requested.

3.2.2 It had been agreed with industry partners that applications written in the trials would not be published, but that the end of trial reports would be. This was to avoid delay from claims for commercial confidentiality. Some operators seemed less than fully aware that commercial confidentiality had to be justified rather than simply asserted.

3.2.3 Operators wanted to have the option of reporting electronically. They accepted that reporting formats should not be uniformly presented in advance but would need to be agreed administratively with the Agency.

3.3 Resources

3.3.1 We carried out the first two trials as a scoping exercise. This was a success. It raised awareness in the Agency and very quickly highlighted potential problem areas (e.g. definition of an "installation") at an early stage; and it involved only a small amount of Agency time and money.

3.3.2 The trials were unable to accurately test the Agency's resource use in processing applications for several reasons, including the delays in receiving draft PPC Regulations and the lack of detailed Agency guidance/procedure. It is anticipated that the resources used in the first few months of IPPC becoming live will give much more reliable data on resource requirements.

3.4 The Installation

3.4.1 In all trials there was some discussion with the operator on what formed the installation and where the boundaries lay. In most cases this was fairly straightforward to resolve. The most difficult -and so far not fully resolved- was the chemical industry trial where the interactions between the various reactor streams and common utilities supply could lead to many potential definitions.

3.4.2 Six of the eight applications provided little information on energy efficiency. Those that considered the issue most appropriately (trials number 6 and number 8) were those where energy utilisation is a significant cost consideration.

3.4.3 Applications contained site reports on ground conditions where the information already existed. Operators were concerned at what was meant by a "site report" and how much it was going to cost to provide. All operators hoped for guidance from the Agency on site reports.

3.5 The Environment as a Whole

3.5.1 Some operators found it took some time to understand the integrated aspects of IPPC. At the end of the trial, however, they all acknowledged it had been a valuable learning experience that would help them to start dealing with the problems now, and thus ease their transition to IPPC. This was particularly evident in industries which are new to this type of regulation. The trials appear to have greatly increased the awareness and understanding of IPPC within these industries.

3.5.2 IPPC requires the consideration of the "environment as a whole". Process Industry Regulation (PIR) officers use the Agency's methodology to address the Best Practicable Environmental Option within IPC, but other Agency staff were not familiar with any such methods. The Agency is developing a methodology for IPPC.

3.6 Testing Processes and Guidance

3.6.1 For the first two trials, permits were produced in both the Waste and IPC formats. This was done so that the best could be taken from each system, new conditions only being developed when required. Although the two formats appear very different, it soon became apparent that both functions were trying to achieve similar objectives – the use of best practice to minimise harmful effects on the environment. The Agency officers from both trials preferred a format based on the IPC permit. During these trials the draft permit has been developed further. The operator is to be guided towards comprehensive coverage of all the relevant issues to be included in their application as part of the Regulatory Package.

3.6.2 The trials showed up several deficiencies (roles, responsibilities and procedures) in the IPPC Process Handbook (this is an internal Agency document detailing the process and procedures for IPPC regulation). These are being addressed in later drafts of the Handbook

3.6.3 By the time of trials number 7 and number 8, the first draft of parts of the Agency's IPPC Regulatory Package (the "Common Issues Guide") was available and was tried out. The shortcomings of the pack were identified by operators and the Agency's staff involved in these trials. The comments and suggestions made contributed to its improvement.

4. Operators' Comments

4.1 Resources used by operators in making their applications were assessed by some of the operators, they were all greater than current regulatory requirements.

4.2 All operators found they relied on the information supplied to them by the Agency. This information was better understood by some than others.

4.3 The trials were seen by most operators as a training exercise and as a good opportunity to gain experience. They allowed operators to explore the issues and enhanced the operators' knowledge of how the Agency approaches regulation. Several operators commented that the use of experienced staff, in at least a guidance role, is essential for both Agency and operators alike.

4.4 One operator wondered whether the Agency would be able to cope with the new factors and new industries covered by IPPC. The trials have played an important part in ensuring the Agency will be ready for IPPC

4.5 The food industry operator (trial number 4) believed the Agency was being over prescriptive and applying a strict interpretation of the directive. They considered the Agency could be more flexible in its approach because of the perceived lower risk to the environment from food manufacture. The Agency is working with the Food and Drink Federation (the industry's trade body) to ensure the requirements of IPPC are met pragmatically.

4.6 The sewage works operator (trial number 7) were enthusiastic to be involved in the trials but considered that there was no justification for an IPPC permit for the entire sewage works site as they were already adequately covered by water legislation. The requirements of the IPPC Directive have been directly transposed into the draft PPC regulations for this sector. The Agency is working with UK Water (the industry's trade body) to establish the Directive's requirements for this sector.

4.7 Operators considered that they would have had greater benefit if better guidance and the regulations had been available at the time of the trial.

5. Recommendations

5.1 The Agency should ensure its guidance is clear, unambiguous and easily understood. Operators may then complete the IPPC application in a logical way, without wasting time and money on irrelevancies.

5.2 The Agency should recognise that, for the initial applications from new sectors, it may be beneficial to spend more time on the pre-application and reduce unnecessary time at a later stage in the process of determination of the application.

5.3 If the Agency, undertakes any other trials, it should consider carrying out one or two initial scoping trials, as a way of quickly identifying major obstacles without committing disproportionate resources.

5.4 The Agency is required to recover its costs from those it regulates. The Agency should review its existing time recording systems to ensure the cross functional needs of IPPC are met and that all the time spent on IPPC permitting is properly brought together.

5.5 Clarity is needed about what forms an installation. The Agency must take into account DETR's interpretation of an installation and should produce more examples, particularly in chemical manufacture. This would remove ambiguity and improve consistency both points raised in discussion with many industry sectors.

5.6 Further IPPC trials should not be undertaken. More detailed information would be gained, but the trials reported here have highlighted the most common problems (e.g. definition of installation, size of virtual team). Other problems should be resolved as they occur.

5.7 The Agency should provide clear guidance on what it requires from a site report. This will prevent the need to ask for additional information and ambiguity within the application. (This has been addressed in the IPPC Regulatory Package to be consulted on in Spring 2000).

5.8 All those involved in writing the IPPC permit should be trained in methods (such as the IPC methodology) to consider the environment as a whole.

5.9 The Agency should promote the use of electronic reporting. Many operators have electronic data capture systems which could enable them to meet reporting obligations more simply and cheaply. In turn, if the Agency could receive reporting forms electronically, it should be more efficient in handling reported data.

5.10 In each Area, the Agency should have a designated contact to take any queries from installations where an Account Manager, pre-application Account Manger or site contact does not exist at present.

5.11 In the first few years of IPPC, the Regulatory Package and the Process Handbook should be regarded as "living documents" and the Agency should be prepared to amend them reasonably often in the light of operating experience.

Glossary

Agency	Environment Agency
DETR	Department of the Environment, Transport and the Regions
EPNS	Environmental Protection National Service
EPO	Environmental Protection Officer
IPC	Integrated Pollution Control
IPPC	Integrated Pollution Prevention and Control
LA	Local Authority
NGO	Non-governmental organisation
Part IIA	Environmental Protection Act 1990 (as amended)–Contaminated Land provisions
PIR	Process Industries Regulation
PPC	Pollution Prevention Control (regulations)
RSR	Radioactive Substances Regulation

Annex 1

IPPC PERMITTING TRIALS

1.0 Objectives of Trials

1.1 Prior to the formal introduction of IPPC to:

a) Gain operational experience of the introduction of the permitting process.

b) Highlight potential deficiencies in the permitting process, thereby allowing corrective action to be taken.

1.2 To assess the likely structure of an IPPC permit.

1.3 To assess the procedures involved in producing a permit and modify procedures where required.

2.0 Introduction and Approach

2.1 The Environment Agency's IPPC Project Board, IPPC Project Team and IPPC Implementation Group have all identified that trials of the IPPC permitting process will greatly improve the Agency's understanding of the process.

2.2.1 The trials should identify any pinch points and problems areas which can be resolved before IPPC goes live.

2.3 The experience gained in the trials will ensure smooth implementation of IPPC at the Environment Agency's Regional and Area levels.

2.4 The approach proposed builds upon regulatory experience already contained within the Agency. This building process is carried out in manageable packages to encompass those areas of IPPC that are new to the Environment Agency.

2.5 To maximise efficiency, small groups are proposed to give quick delivery and minimise the resource requirements within the Agency.

2.6 Throughout the process, clear documentation of the methodology and findings will be required to aid communication, transfer of learning and to provide an audit trail.

2.7 The Agency's Regional IPPC Groups will stay in close touch with the trials.

3.0 Implementation of Trials

3.1 Some eight trials are envisaged in total. It should be noted the proposals for specific trials given below have yet to be agreed with all Agency Regions. In addition, inter-Agency co-operation with the Scottish Environmental Protection Agency (SEPA) and Northern Ireland Environment and Heritage Service (NIEHS) needs to be considered, whether by inclusion of site(s) in Scotland or Northern Ireland, or by representation of

relevant staff in the management framework. All trials will naturally require support from operators and their relevant trade bodies.

3.2 The trials will be planned to cover the maximum number of business sectors.

3.3 No more than one trial will be carried out in any Environment Agency Region in the first instance. This will minimise the resource requirements for any region and will spread the practical experience gained to greatest effect.

3.4 For each trial, a small focused team is proposed to minimise resource requirements and enable slick communication. This ensures the trials progress speedily which will meet the tight time-scale within the operations package. The team should comprise 2 personnel from the Agency Region (preferably area based) in which the trial is being carried out and the 2 Operational Co-ordinators from the Agency's IPPC Project Team. Of the personnel from the region, one should have waste experience and the other PIR experience. Preferably both should have some experience of the development of IPPC within the Environment Agency.

3.5 Whilst the team itself is small and focused, a larger group should be used for the scoping exercise and to receive feedback from the trial. The Regional IPPC Group plus a representative from the Agency's Environmental Protection National Service (EPNS) should be a suitable group (see 2.7 above).

3.6 The team carrying out the trial should have access to specialist advice within the host Region for such consideration as Legal Opinion, Water Quality, Contaminated Land and Ground Water.

3.7 It is proposed that the first two trials should be carried out at installations that are already use to regulation by the Agency. These two trials will be carried out early and will need to anticipate the regulations. These will be very much "warts and all" trials where the intention is to gain as much information as possible at an early stage. Even severe problems will be positive outcomes as they would highlight problems at an early non-critical stage and allow corrective action to be put in place for subsequent trials. The proposed installations are a major Landfill in Anglian Region and a non-ferrous metal process in Midlands Region. These would allow the trial methodology to be refined and more widely disseminated.

3.8 Using the experience of the first two trials it is proposed the next two trials should be of Installations not currently subject to PIR or Waste regulation by Agency. This would allow the introduction of the concept of IPPC at an early stage and via their trade associations ensure the points learned are disseminated throughout the sector. The proposed installations are an intensive animal rearing unit in the Welsh Region and a food processing unit in North East Region.

3.9 The final four trials would support firming up on the IPPC permitting process, to ensure that the Agency is consistent in its requirements for the application and to enable template permits to be produced that will give generic conditions. The proposed installations are a cement work using waste tyre as part of its fuel in South West Region, a medium sized chemical installation which operates both continuous and batch processes in North West Region, a clinical waste incinerator (which may

have Radioactive Substances Regulation (RSR) implications) or a sewage treatment works in Thames Region and a pulp and paper plant in Southern Region.

4.0 Time-scales

4.1 The process will be kept under frequent review at key stages to retain flexibility. As indicated above, it is considered imperative that the first two trials are carried out soon to gain a broad brush picture of the permitting process. This is required soonest to allow planning of the future trials within the time constraints contained within the Operations Work Package. With this in mind these first two trials should be completed by the second week of February 1999.

4.2 Planning of the second two trials of the Installations, that are new to the Agency, should begin at the start of February 1999 for completion by the end of April 1999.

4.3 The final trials are anticipated to take less time as they will be able to benefit from the experience gained. The planning for these would commence in April and the trials would be complete by the end of June 1999. This coincides with the final trial completion date within the Operations Work Package.

24 November 1998

Annex 2

ENVIRONMENT AGENCY STAFF INVOLVED IN THE TRIALS

No	Trial	Name	Function/ Role
1	Waste Management, Landfill	Tony Goryn Caroline John Mark Maleham Jane Morris Doug Munkman Gareth Lewis Sara Spillett Dave Purchase Liz Williams	Environment Protection IPPC Competencies EPNS Land Quality Head Office IPPC Project PIR IPPC Project Waste Library Manager Environment Protection
2	Metal Production & Processing, aluminium smelting	Neil Davies Andy Bond Dirk Comerford Paul Hayward Tony Jenkins Doug Munkman Karen Smith Sara Spillett	PIR PIR Waste Licensing Environment Protection Hydrologist IPPC Project Environment Protection IPPC Project
3	Other Activities, Poultry Farm	Mark Medway Bob Merriman Doug Munkman Helen Richardson Sara Spillett	Environment Protection Rural Land-Use Officer IPPC Project EPNS IPPC Project
4	Other Activities, Food Production	Mark Scott Sue Everett Frank Hardwick Doug Munkman Helen Richardson	Environment Protection Environment Protection PIR IPPC Project EPNS
5	Chemical Industry	Paul Stevens Kerry Diamond Lesley Ormerod Sara Spillett	PIR Land Quality Environment Protection IPPC Project

6	Waste Management, Incineration	Phil Heaton	PIR
		Phil Ackerley	Waste Planner (Region for LA contact)
		Amin Anjum	PIR (Region)
		Colin Chiverton	PIR
		Catherine Cook	Public Relations
		John Eastwood	Water (Region)
		Jon Freed	Customer Services
		John Galvin	Waste (Region)
		John Gregory	PIR (for noise)
		J C Hall	Environment Protection
		Rita Hart	Technical Support
		Peter Kellett	Legal
		James Liney	Public Access
		Tracy McKeown	Water Consenting
		George Merrick	Water Resources
		Doug Munkman	IPPC Project
		Brian Penny	Scientific Support
		Frazier Smith	Economist
		John Waxman	Tactical Planning
		David Webb	Conservation
		Miranda Wycherly	Waste Licensing
7	Waste Management, Water Treatment	Ian Nutter	Environment Planning
		Colin Babb	PIR
		Steve Chandler	Area Environment Planning Manager
		Jim Dadd	Waste
		John Eastwood	IPPC Project
		Debby Eley	Tactical Planning
		Andy Rogers	Regional Water Quality
		Sara Spillett	IPPC Project
8	Other Activities, Paper Production	David Johnson	PIR
		Jonathan Atkinson	Land Quality
		Richard Dean	Water
		Alan Moody	Water Resources
		John Morgan	Conservation
		Doug Munkman	IPPC Project
		Moyra Tomason	Waste

Annex 3 – End of Trials Reports

PART 2

CONTENTS

Individual End of Trials Reports

ENVIRONMENT AGENCY

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 1

MARCH 2000

Shanks
"L" Field Landfill Site
Green Lane
Stewartby
Bedfordshire

The Compiler wishes to thank all those – both within and outside the Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compiler: Sara Spillett
National IPPC Project Operations Co-ordinator

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1.0 EXECUTIVE SUMMARY

1.1 This trial (number one in a series of eight) was intended to quickly identify any severe deficiencies within the likely IPPC permitting process.

1.2 The application made by Shanks consisted in part of information already available and some new documentation prepared specially for the trial.

1.3 The draft permits were drawn up in Waste and IPC formats. A format for a draft IPPC permit was agreed at a local and a function level.

1.4 The rough and ready nature of this trial means that no attempt was made to record time taken to process the application in this trial.

1.5 The trial was completed in Spring 1999 and conclusions from it were fed into the development of the IPPC Regulatory Package, Process Handbook and competencies.

1.6 The operator was very supportive of the trial and of the Agency staff involved. They expressed concerns about the length of time taken by the Agency to handle waste management licence applications and modifications, and therefore questioned whether the Agency would be able to cope with the additional workload and complexity of IPPC.

2.0 INTRODUCTION TO IPPC PERMITTING TRIALS

2.1 In November 1998 the IPPC Project Board and the IPPC Implementation Group approved proposals for IPPC permitting trials.

2.2 The approach to be taken in the trials was:

2.2.1 Improve the Agency's understanding of the IPPC permitting process.

2.2.2 Identify any pinch points or problem areas that can be resolved before IPPC goes live.

2.2.3 Gain and co-ordinate experience to guide the smooth implementation of IPPC at Regional and Area level.

2.2.4 Build on the Agency's existing regulatory experience.

2.2.5 Maximise efficiency into delivery of IPPC permits.

2.2.6 Produce clear documentation of methodology and findings – this report being one such example.

2.2.7 Regional Groups to play an overseeing role as an aid to consistency.

2.2.8 One of the two IPPC Project Operations Co-ordinators would be assigned to each trial to give advice, where required, on IPPC and to act as a conduit on experience gained to other trials.

2.3 The following regime was adopted in order to achieve the above approach.

2.3.1 There should be 8 trials: one in each Region to minimise disruption and maximise experience.

2.3.2 The team involved in the trail should be small and focused, but have access to local specialist advice.

2.3.3 The first two trials should be carried out at sites already regulated by Agency so as to not introduce unnecessary complications at an early stage.

2.3.4 The first two trials should be carried out as soon as possible – well in advance of the regulations. They were to be very much "scoping trials" intended to identify the main problem areas and to confirm there are no matters that could cause a stoppage in the implementation of IPPC within the Agency.

2.3.5 The timescales for the trails would be reviewed in the light of experience.

3.0 BACKGROUND TO THIS TRIAL

3.1 This trial was the first to start and it laid the foundations for the others that followed. A facility type was decided on for the Region and Area staff were asked to propose a suitable site. Once this was done the a team comprising area, regional, head office and EPNS staff were called together.

3.2 The site chosen was the Shanks "L" Field Landfill Site. It is a disused clay pit that was formed as a result of quarrying clay for brick-making purposes. In area it totals 75 hectares and the void space is approximately two thirds full. The site has a predicted life of seven years based on current waste inputs. It is licensed to accept a variety of waste types including inert, biodegradable and some Special Wastes. Once landfill operations are complete the site will be restored to a mixture of light agriculture and a country park with public access.

3.3 To assist all involved in the Trial a list of the IPPC Directive's additions to waste management licensing was produced. This is attached as an appendix to this report.

3.4 The Agency Trial Co-ordinator within the Area was Tony Goryn, (Environmental Protection Team Leader).

4.0 PROGRAMME

4.1 An initial site visit and meeting was held between the Agency and the company in late November 1998. The principles of IPPC and the objectives of the trial were explained and the company agreed to participate in the trial.

4.2 At first the Shanks "L" Field Landfill and Stewartby Waste Treatment Plant were to be considered as the trial installation. It was soon realised that this would be too complex for an early trial and it was agreed that the application should only consist of the landfill, i.e. just part of the installation.

4.3 The Agency team is listed below:

Tony Goryn	EPO Team Leader
Liz Williams	EPO
Garreth Lewis	PIR Officer
Jane Morris	Land Quality Head Office
Mark Maleham	EPNS Technical Guidance Section
Dave Purchase	Waste Library Manger
Caroline John	IPPC Competencies
Doug Munkman	IPPC Project
Sara Spillett	IPPC Project

4.4 The Shanks team is listed below:

Patrick Pointer	Technical Group Manager
Mike Hendry	Licensing Officer
Chris Challands	Landfill and Treatment Plant Manger
Martin Lowe	Principal Environmental Scientist
Rafal Lewicki	Development Engineer

4.5 Shanks agreed to draw together an application consisting of existing information and some new material and to submit this to the Agency before the end of1998. Illness on the part of the company lead meant that the application was not received until late January 1999. It consisted of:

- Waste Management Licence application form
- Indicative application and contents list for an IPPC application with additional details contained in
  - -Working plan for the Brogborough Landfill Site
  - -Gas management plan for Brogborough Landfill Site
  - -Groundwater risk assessment for "L" Field Landfill Site
- Site location plan
- Site layout plan
- Non-technical summary
- Example of BAT decision making for the on-site leachate treatment plant
- Statement on environmental accidents
- Short extract of accounts for financial provision purposes

4.6 The Agency assessed the information and requested further details. The nature of a trial and the need to make progress resulted in submission and acceptance of an application that would not in reality have been made by Shanks, nor accepted by the Agency. Taking this qualification into account draft permits were written in Waste Management Licence and IPC styles.

4.7 The draft permits were presented to the Agency team in April 1999. The team agreed a preferred format and made additional comments

4.8 In May 1999 the trial was reviewed with Shanks and a representative of the ESA (Environmental Services Association). They agreed that the trial had been useful and commented that pulling together the information that was to hand had taken considerably longer than they had expected. Shanks added that in a real application, the level of detail required in an application for an IPPC permit for the whole site (not just the landfill) would be a considerable effort for them and would stretch the Agency.

5.0 CONFIDENTIALITY ISSUES ADDRESSED

5.1 The Operator agreed to supply any information they had available on the understanding that it would at that point only be available to the Agency. As this was one of the first two trials, where speed was important, this was agreed.

5.2 The Agency stated that they would like to eventually put the trial in the public domain.

5.3 The Operator was advised that the Agency would prefer the industry's trade association, the ESA, to be involved in the trial. This would enable relevant learning points to be more readily broadcast throughout the Industry saving both time and resources for both the Industry and the Agency. The ESA were kept informed throughout the trial by the Operator and were involved in the final debriefing session with the Agency.

5.4 The draft permits resulting from this trial had example conditions inserted to make it realistic. Both the Operator and the Agency understood that these conditions were examples and may have no relevance to any permit formally issued under IPPC.

5.5 Prior to the external release of this report, it should be reviewed with the Operator to ensure there are no confidentiality issues that require resolution.

5.6 There is nothing in the report that is considered confidential to the Agency.

6.0 REPORT BY THE OPERATOR

6.1 It is important that the implementation of the requirements of the landfill directive and the IPPC directives are linked. Shanks had much of the information required for the IPPC application to hand, however collating it took far longer than anticipated.

6.2 Many of the new IPPC issues to be considered, for example consulting the public and producing a non-technical summary of information are in reality already happening, with local liaison committees set up to discuss issues arising from the site. The waste management industry will cope with the introduction of IPPC but will the Environment Agency be able to cope with the additional workload?

6.3 The current project team within the Environment Agency is working hard to get this right, and its efforts must be compared to that of the team that did such an excellent job of introducing the Special Waste Regulations 1996. However the success of the implementation of IPPC will largely depend on its ability to train staff to think and work like the old HMIP did. This will be a massive challenge to the managers in the Environment Agency and may be difficult to achieve by the start date.

6.4 IPPC should and could be a major step forward in environmental protection, but this will largely depend on the ability of the waste and water side of the Environment Agency to change and focus on the areas that will significantly reduce the environmental impact of landfills.

7.0 CONCLUSIONS

7.1 The trial was useful in exploring IPPC application and permitting for an industry at present regulated under Waste Management Licensing. The rough and ready approach with conclusions quickly available to other trials and for the development of policies and procedures for IPPC, through involvement of IPPC Team members, worked well.

7.2 The permits drafted were developed further and the favoured option discussed with representatives of the Agency's Waste Function. Their support allowed progress to be made towards a single permit for all IPPC installations (when the trial started many expected there to be a "waste" IPPC permit and an "IPC" IPPC Permit).

7.3 The length of time spent discussing the application with the operator and the feedback from Shanks on the usefulness of this confirmed the need for detailed supportive guidance to be produced to assist operators in making applications.

7.4 The need for a legal interpretative document, explaining terms such as "installation" was identified if IPPC is to be applied consistently.

7.5 The trial went some way to raising awareness of IPPC within the waste industry generally. Shanks, and in particular Patrick Pointer, have worked hard to raise the profile of IPPC within the industry, giving papers at several conferences and writing articles based around his experience in the trial.

7.6 Area, head office and EPNS staff worked will together on a range of issues presented by the trials. Agency participants enjoyed working with others from different parts and Functions within the Agency.

Appendix 1

IPPC DIRECTIVE'S ADDITIONS TO WASTE MANAGEMENT LICENSING

Article 3(a) BAT (see annex IV of the Directive, copy attached to this note).

Article 3(c) Waste Production is avoided, where it is produced it is recovered or, where that is technically of economically impossible it is disposed of while avoiding or reducing any impact on the environment.

Article 3(d) Energy is used efficiently.

Article 3(e) Measures are taken to prevent environmental accidents and limit their consequences.

Article 6(1) Application shall contain a description of:

- The installation and its activities.
- The raw and auxiliary materials, other substances and the energy used in or generated by the installation.
- The sources of emissions from the installation.
- The conditions of the site of the installation.
- The nature and quantities of emissions from the installation into each medium as well as identification of significant effects of the emission on the environment.
- Proposed technology and techniques for preventing or where this is not possible reducing emissions on the environment.
-Where necessary the measures for the prevention and recovery of waste generated by the installation.
- Further measures to comply with Article 3.
- Measures planned to monitor emissions into the environment.

An application shall also include a non-technical summary.

Article 9 A comparison of the conditions required by the IPPC Directive, the Waste Framework Directive and its daughter directive the draft Landfill Directive (i.e. version prior to common position).

This was done when the landfill directive was still in draft form; the table is therefore not included.

Article 9(3) Emission limit values (air and water have indicative lists).

Article 10 Where environmental quality standards (EQS) require more than BAT the EQS have priority.

Article 15(1) Applications for new installations and for substantial change to existing installations are made available to the public.

Article 15(3) Inventory of principle emission sources.

Article 17 Transboundary effects.

Article 18(2) "Technical characteristics" of landfills shall be set by landfill directive.

Annex IV of the IPPC Directive

Considerations to be taken into account generally or in specific cases when determining best available techniques, as defined in Article 2 (11), bearing in mind the likely costs and benefits of a measure and the principles of precaution and prevention:

1. The use of low-waste technology.

2. The use of less hazardous substances.

3. The furthering of recovery and recycling of substances generated and used in the process and of waste, where appropriate.

4. Comparable processes, facilities or methods of operation which have been tried with success on an industrial scale.

5. Technological advances and changes in scientific knowledge and understanding.

6. The nature, effects and volume of the emissions concerned.

7. The commissioning dates for new or existing installations.

8. The length of time needed to introduce the best available technique.

9. The consumption and nature of raw materials (including water) used in the process and their energy efficiency.

10. The need to prevent or reduce to a minimum the overall impact of the emissions on the environment and the risks to it.

11. The need to prevent accidents and to minimise the consequences for the environment.

12. The information published by the Commission pursuant to Article 16 (2) or by international organisations.

ENVIRONMENT AGENCY

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 2

MAY 1999

Lawson Mardon Star
Bridgenorth
Shropshire

The Compiler wishes to thank all those – both within and outside Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compiler: **Doug Munkman**
National IPPC Project Operations Co-ordinator

INDEX

1.0 EXECUTIVE SUMMARY

1.1 This trial (number 2 in a series of 8) was intended to quickly identify any severe deficiencies or "show stoppers" within the likely IPPC permitting process.

1.2 The need to get feed-back quickly meant that it was accepted that the trials would proceed quickly and that there was likely to be gaps between available information and required information.

1.3 This trial did not identify any "show stoppers", but several learning points were identified.

1.3.1 At the time (Feb 1999) the Operator was ill prepared to address all the issues of IPPC in the application.

1.3.2 The amount of information that the Agency requires in a "good" application will take the Operator longer to prepare than the Operator originally estimates.

1.3.3 Agency staff from different functions readily work together but time is required to initially set up the teams' terms of reference to enable effective team working.

1.4 IPPC does offer opportunities for integration within the Agency. This installation had several specific issues previously addressed by individual functions. Bringing these together improved awareness. Sharing the experience from various backgrounds enabled a better understanding of the "environment as a whole" as required by the IPPC Directive.

1.5 The draft permit was initially drawn up in Waste and IPC formats. Whilst the formats appear different it was demonstrated at an early stage that the objectives of both functions were identified. The format differences were brought about by the previous experience of regulation in different business sectors.

1.6 A format for a draft IPPC permit was agreed at a local and a function level.

1.7 The operator had information on some issues which were more specific to IPPC e.g. noise and historic ground contamination. This information is not likely to be available to many existing operators, who will need to be encouraged to start gaining this information as soon as practicable.

1.8 The definition of an installation is still not clear. This has implications for the Agency and Local Authorities.

1.9 Due to the high level of basic learning within the Agency and the paucity of some relevant information it was not reasonable to obtain relevant time recording data. This needs to be addressed in later trials to gain information that will support the charging scheme.

1.10 For this trial there appeared to be the necessary competence and knowledge available within the Area to handle the trial.

2.0 INTRODUCTION TO IPPC PERMITTING TRIALS

2.1 Papers were approved by both the IPPC Project Board and the IPPC Implementation Group in November 1998. The papers proposed that IPPC Permitting Trials should be set up.

2.2 The approach to be taken in the trials was:

2.2.1 Improve the Agency's understanding of the IPPC permitting process.

2.2.2 Identify any pinch points or problem areas that can be resolved before IPPC goes live.

2.2.3 Gain and co-ordinate experience to guide the smooth implementation of IPPC at Regional and Area level.

2.2.4 Build on Agency's existing regulatory experience.

2.2.5 Maximise efficiency into delivery of IPPC permits.

2.2.6 Produce clear documentation of methodology and findings – this report being one such example.

2.2.7 Regional Groups to play an overseeing role as an aid to consistency.

2.2.8 One of the two IPPC Project Operations Co-ordinators would be assigned to each trial to give advice, where required, on IPPC and to act as a conduit on experience gained to other trials.

2.3 The following regime was adopted in order to achieve the above approach.

2.3.1 There should be 8 trials: one in each Region to minimise disruption and maximise experience.

2.3.2 The team involved in the trail should be small and focused, but have access to local specialist advice.

2.3.3 The first two trials should be carried out at sites already regulated by Agency so as to not introduce unnecessary complications at an early stage.

2.3.4 The first two trials should be carried out as soon as possible – well in advance of the regulations. They were to be very much "scoping trials" intended to identify the main problem areas and to confirm there are no matters that could cause a stoppage in the implementation of IPPC within the Agency.

2.3.5 The timescales for the trials would be reviewed in the light of experience.

3.0 BACKGROUND TO THIS TRIAL

3.1 As this trial was to be one of the first two trials, it was considered imperative that it was progressed expeditiously.

3.2 Midlands Region agreed to run this trial and were asked to identify a likely candidate in the non-ferrous metal processing industry as much of this industry is located in the Midlands.

3.3 As it was an early trial, it was accepted that the information from the Operator, in the way of an application, was likely to be limited. This could be accepted, however, as the trial was primarily intended to identify serious defects or shortcomings within the Agency. The added advantage was that some areas where an operator was likely to be lacking in information were likely to be identified.

3.4 Midlands Region identified Lawson Mardon Star at Bridgnorth as a likely site. This site had several interesting features which would give opportunity for cross functional activity.

3.5 The site identified recovers aluminium or imports ingot aluminium. The aluminium is then rolled to produce various grades of aluminium foil. The foil can then be coated or laminated to produce many grades of foil which are widely used in the food industry.

3.6 The most salient features of cross-functional interest were:

3.6.1 The site has a Part A IPC authorisation for its aluminium furnaces.

3.6.2 There is a Part B LAPC authorisation issued by the local authority for the coating process.

3.6.3 There is an inert landfill on site.

3.6.4 There is a history of oil contamination of the ground and groundwater from the rolling section.

3.6.5 There are aqueous discharges to sewer and to soakaways on site.

3.6.6 Although not now prevalent there is a history of smell and noise complaint against the site.

3.7 The Operator was contacted locally by the PIR contact and agreed in principle to take part in the trial.

3.8 The Agency Trial Co-ordinator within the Area was Dr Neil Davies (PIR/PSR Team Leader).

4.0 PROGRAMME

4.1 Contact was made with Lawson Mardon Star by the normal Agency contact, Andy Bond, in December 1998. The company agreed in principle to take part in the trial.

4.2 An initial meeting was held between the Agency and the company in December 1998. The principles of IPPC and the objectives of the trials were presented to the company at this meeting. The company informally agreed to take part in the trial.

4.3 The company agreed to draw together, by way of an application, any existing information before the end of January 1999. It was acknowledged at this point that within this timescale, it was unlikely the company would be able to obtain significant new information.

4.4 A restructuring within Lawson Mardon Star had meant changes in roles and responsibilities had occurred. Local Agency Staff helped the Operator in pulling together the existing information to enable the January deadline to be met.

4.5 From the information obtained the following were drawn up by Project Team members:

4.5.1 Draft Permit in Waste format.

4.5.2 Draft Permit in IPC format.

4.5.3 A summary of the additional information likely to be required to make a full IPPC application.

4.6 At the same time as the draft permits were being prepared, the Area brought together a multifunctional team (involving Groundwater, PIR, Waste and Water Quality) to consider issues raised by the application.

4.7 The draft permits were presented to this multifunctional team in early March 1999. The team agreed a preferred format and made additional comments. These were incorporated into the draft permit from the trial produced at the end of March 1999.

4.8 A meeting was held with Bridgnorth Borough Council in April 1999. The meeting explained the Agency's philosophy for the trial and presented the draft permit. The meeting was an information sharing exercise and was conducted "without prejudice" as it was not known what was likely to be in the PPC Regulations or who would be regulating Lawson Mardon Star. Bridgnorth BC expressed satisfaction at being kept informed on progress of the trials.

4.9 The permit was formally presented to the Operator and a representative of their Trade Association in May 1999. They had previously been provided with a copy of the draft permit. The operator had queries about the specific example conditions (see 5.3). Neither the Company nor the Trade Organisation could see major problems with the way the Agency was developing IPPC permitting.

4.10 The Agency Project Team and the Area Team agreed that the trial (as one of the first two) had achieved its stated objective and could be signed off.

5.0 CONFIDENTIALITY ISSUES ADDRESSED

5.1 The first two trials needed to be progressed as soon as possible to gain information for input into future trials. The Operator agreed to supply any information they had available on the understanding that it would at that point only be available to the Agency.

5.2 The Agency had stated that they would like to eventually put the trials in the public domain. It was agreed that before going public, the Operator could review the information they had supplied and any confidentiality issues would be resolved at that time.

5.3 The Operator was told that the Agency would prefer the Trade Association to be involved in the trial. This would enable relevant learning points to be more readily broadcast throughout the Industry saving both time and resources for both the Industry and the Agency. The trade association were involved at the final debriefing session (see 4.9).

5.4 The draft permits resulting from these trials had example conditions inserted to make the draft realistic. Both the Operator and Agency understood that these conditions were examples and may have no relevance to any permit formally issued under IPPC.

5.5 Prior to the external release of this report, there should be a review with the Operator to ensure there are no confidentiality issues that require resolution (see 5.2).

5.6 There is nothing in the report that is considered confidential to the Agency.

6.0 REPORT BY AREA TEAM WITHIN AGENCY

6.1 The area welcomed the opportunity to undertake one of the permit trials as it allowed its staff to gain some knowledge of IPPC.

6.2 The site of the trial was chosen as it had many regulatory features that were relevant to the requirements of IPPC (these are outlined in section 3.6 above). Furthermore, it was decided to use as wide a definition of "installation" as possible and, consequently, the whole site was taken to fall under IPPC.

6.3 A project team was set up to ensure that the appropriate expertise was available to produce the permit as well as to share the experience of permitting under IPPC as wide as possible.

6.4 The support given by members of the IPPC Project Team was valuable and the regular updates given to the area team were a useful part of the exercise. In particular, the work of the IPPC Project Team to produce the permits was important as there was insufficient resource available within the area to have undertaken that part of the project.

6.5 Even though the IPPC Project Team provided this valuable input, the production of the permit, along with the discussions held with the Bridgnorth District Council and the Company, was very resource intensive. As an estimate, the area team committed some 130 hours of effort to the trial.

6.6 A large proportion of the time was spent discussing the merits of the styles of permit produced i.e. waste and IPC-type permits. It was agreed by all that the most appropriate style for this particular site was the IPC style. However, there was an initial attempt to retain many of the waste library conditions for the site's inert landfill. This produced an imbalance in the number of conditions relating to different parts of the site: the landfill having a disproportionate number of conditions relative to its environmental impact. For this reason, the IPC-style was adopted throughout.

6.7 One of the most important issues arising from the permit style was the impact that it may have on how the Agency regulates against them. A permit based on the waste license, which contains very many specific conditions, lends itself better to enforcement by someone not involved in producing the permit. The IPC-style permit, on the other hand, requires more in-depth knowledge of the permitting process and the details of the Operator's application.

6.8 Bridgnorth District Council, having a regulatory interest in the site (through a Part B process), were informed of the permitting trial at the outset. This could have been given rise to some difficulties in their relationship with the Agency. However, they did not wish to participate in the whole permitting process but were very pleased to be briefed on the Agency's experience on completion of the trial.

6.9 As a final conclusion, the trial itself gave invaluable experience to the area. The use of a project team to produce the permit was necessary to enable all of the issues to be addressed. It was, however, very resource intensive, and without extra resources

it would be difficult to pursue this method of permitting once the phasing in begins in earnest.

7.0 REPORT BY OPERATOR

1. An insight into the proposed legislative structure was provided.

2. The concept of integration, as applied to the new legislation, is recognised and the inter-relationships of plant and technically-linked processes, is appreciated. The exercise highlighted areas to be addressed with regard to all forms of emissions and the effective utilisation of energy and material resources.

3. Discussions with Environment Agency personnel were instructive and forthright. There were no problems of communication.

4. At the review meeting, an IPPC draft proposal was presented. There were a number of issues, which were initially challenged with respect to the proposed limits. These related to stringent performance specifications. For example in relation to total carbon emissions from an oxidiser installation, these limits were at the level of the manufacturers functional performance guarantee, i.e. at 20 mg/m^3.

5. The trial IPPC documentation discussion took place with a representative of The Aluminium Federation Environment Committee present. This person was also employed by an operator of a similar type of process. Feedback from the meeting was subsequently passed on to the Aluminium Federation.

6. The exercise was beneficial. It provided a good platform for open discussion, enabled a better appreciation of the legislative development, and provided an insight into plant and process developments and of necessary continuous environmental management improvements.

8.0 CONCLUSIONS

8.1 The papers that were approved by the IPPC Project Board and IPPC Implementation Group stated for the first two trials; "These will be very much "warts and all" trials where the intention is to gain as much information as possible at an early stage. Even severe problems will be positive outcomes as they would highlight problems at an early non-critical stage and allow corrective action to be put in place for subsequent trials". This trial was successful in meeting this and indeed no insurmountable obstacles were identified.

8.2 The need to progress this trial quickly meant that Agency had to accept that there was likely to be gaps in the information currently available to the operator and the information required for a full IPPC application. This was found to be a fact and it was then accepted that there was no time available to reasonably expect the Operator to obtain the missing information. Therefore these gaps would be accepted by Agency. In drawing up the draft permits, the likely major gaps were identified.

8.3 No "show stoppers" were identified by this trial but there were several important learning points:-

8.3.1 At December/January 1998/1999 the Operator had heard of IPPC but was not aware of what it required.

8.3.2 Operators are unlikely to have all the information available now that the Agency regards could be made into a "good" application.

8.3.3 Operators are likely to seriously underestimate the time required to collate the information required for an application.

8.3.4 Agency staff from different functions readily worked together.

8.3.5 Agency staff are committed and relish the opportunity to appreciate the problems posed to other functions.

8.3.6 Setting up the multi-functional team requires time and effort to ensure it functions effectively as soon as possible.

8.4 From above the trial indicates that IPPC does offer opportunities for integration within the Agency – a point often assumed but not demonstrated before. Bringing individual functions together improves awareness and enables better understanding of the "environment as a whole". There is, however, a learning curve associated with this and hence a cost to Agency. The latter trials should be used to try to give an assessment of the cost of this learning.

8.5 The draft permit was originally drawn up in two existing formats with the intent of incorporating the best of each format and only creating something new when required.

8.6 A draft format for IPPC permit was agreed at Area and Function levels.

8.7 The two formats used for the draft format appeared very different, but upon further investigation showed that the objectives of the different functions towards Environmental Protection were the same. The differences in format were due to previous experience of regulation in different sectors.

8.8 IPPC introduces aspects that are additional to current Agency regulation (e.g. energy efficiency, noise, de-commissioning and historic ground contamination). Because of the past history, this Operator already had some information on these issues. Other Operators are unlikely to currently have as much information. The Agency needs to ensure potential applicants are made aware of the additional issues that are addressed by IPPC.

8.9 The high level of uncertainty in this trial made useful time recording impractical. Future trials should attempt to accurately time spent on the permitting process (including pre-application). If possible this time should be further split into learning and direct time. This will enable more accurate costing for charging purposes.

8.10 For this trial the whole site was included. Until the definition of "installation" is made clear by DETR it will not be certain if this was correct. The definition of installation has significant impact on potential work-load requirements for the Agency and Local Authorities.

8.11 In the opinion of the Project Team, the Area staff handled the trial well and demonstrated that the necessary skills and competence were already available. This does not necessarily mean that within Agency there is sufficient skill and competence available and that it is at the appropriate location. At the end of the trials the resource calculations should be reviewed in the light of experience.

ASIANTAETH YR AMGYLCHEDD CYMRU
ENVIRONMENT AGENCY WALES

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 3

MARCH 2000

Grampian Country Chickens (Rearing) Limited
Farm AY39
Minafon
Anglesey

The Compiler wishes to thank all those – both within and outside Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compiler: **Sara Spillett**
National IPPC Project Operations Co-ordinator

INDEX

1.0 EXECUTIVE SUMMARY

1.1 This trial (number three in a series of eight) was intended to address issues from one of the new industries to be controlled under IPPC.

1.2 Learning points identified:

- At the time (February 1999) the Operator was ill prepared to address the issues of IPPC.
- The amount and type of information that the Agency will require in an application will require the Operator to consider more factors than they had expected.
- The Operator made the application with only a copy of the IPPC Directive and DETR's third consultation on the PPC Regulations to guide them. The initial provision of information by Grampian was reasonable, but did not contain all the required information for an IPPC application.
- It is clear that Operators in this sector will require considerable Agency support in making their applications. Due to high level of basic learning within the Agency and the paucity of some relevant information in the application submitted, no attempt has been made to obtain reliable time recording data.
- The nature of the trial installation and others in this sector, suggested it may be suitable for a general binding rules (GBR) approach.
- For intensive livestock units, a permit based on technical means rather than emission limits will be required.

1.3 SEPA are to undertake a poultry trial with Grampian Country Chickens, in the Scottish borders, building on the aims, objectives and technical guidance developed around this trial.

1.4 This trial was started before the concept of "account management" had been fully developed. It does not, therefore, explore this approach.

1.5 The trial may seem familiar to those who have attended the Agency's IPPC "Getting Started" awareness raising course. This is because the application from this trial was used in a modified form as a case study for the course.

2.0 INTRODUCTION TO IPPC PERMITTING TRIALS

2.2 In November 1998 the IPPC Project Board and the IPPC Implementation Group approved proposals for IPPC permitting trials.

2.2 The approach to be taken in the trials was:

2.2.1 Improve the Agency's understanding of the IPPC permitting process.

2.2.2 Identify any pinch points or problem areas that can be resolved before IPPC goes live.

2.2.3 Gain and co-ordinate experience to guide the smooth implementation of IPPC at Regional and Area level.

2.2.4 Build on the Agency's existing regulatory experience.

2.2.5 Maximise efficiency into delivery of IPPC permits.

2.2.6 Produce clear documentation of methodology and findings – this report being one such example.

2.2.7 Regional Groups to play an overseeing role as an aid to consistency.

2.2.8 One of the two IPPC Project Operations Co-ordinators would be assigned to each trial to give advice, where required, on IPPC and to act as a conduit on experience gained to other trials.

2.3 The following regime was adopted in order to achieve the above.

2.3.1 There should be 8 trials; one in each Region to minimise disruption and maximise experience.

2.3.2 The team involved in the trial should be small and focused, but have access to local specialist advice.

2.3.3 The first two trials should be carried out at sites already regulated by Agency so as not to introduce unnecessary complications at an early stage.

2.3.4 The first two trials should be carried out as soon as possible – well in advance of the regulations. They were to be very much "scoping trials" intended to identify the main problem areas and to confirm there are no matter that could cause a stoppage in the implementation of IPPC within Agency.

2.3.5 The timescales for the trials would be reviewed in the light of experience.

3.0 BACKGROUND TO THE POULTRY TRIAL

3.1 The Environment Agency Wales agreed to run this trial and were asked to identify a suitable poultry farm. They chose one of the ten poultry farms on Ynys Mon (Anglesey), North Wales. Due to the intensity of poultry production in this area and its environmental impact the Agency has had significant involvement with poultry farms in Anglesey over a number of years.

3.2 As with the two early IPPC trials, it was accepted that the information from the Operator, in the way of an application, was likely to be limited. This would be accepted, as the trial was primarily intended to identify areas where Agency and industry needed to focus attention in the months prior to the implementation of IPPC.

3.3 The site chosen was a rearing farm of 186,000 chickens. The farm grows day old chicks to table sized chickens, which are supplied to an off site slaughterhouse and processing factory. The farm was constructed 30 years ago. At present, the Anglesey farms are the only Grampian farms (possibly the only farms in the industry) with consented discharges to controlled water. IPPC offers an opportunity to level the playing field and remove accusations of unfair treatment.

3.4 The lead in this trial was shared between the Area Environmental Protection Officer (EPO) responsible for the site, EPNS Technical Guidance and the IPPC Project. This allowed learning from the trial to be input directly in to the developing Technical Guidance. The Operator was contacted locally by the EPO contact and Agency Trial Co-ordinator within the Area, Mark Medway (EPO based at Bangor Office). They agreed in principle to take part in the trial.

4.0 PROGRAMME

4.1 Contact was made with Grampian by Mark Medway in December 1998. The company agreed in principle to take part in the trial.

4.2 In January 1999 an initial meeting was held between the company represented by Ian Hepburn (Engineer Grampian Country Chickens) and Carol Hughes (Agricultural Administrator Grampian Country Chickens) and the Agency. The principles of IPPC and the objectives of the trial were presented to the company at this meeting. Following some internal discussions the Operator agreed to take part in the trial.

4.3 It was agreed that the application would consist of existing information and would not entail any additional monitoring and research. The Operator submitted a package of information in February 1999. This comprised:

- A description of AY39 (the farm) and associated activities including
  - Chick preparation.
  - Brooding.
  - Ventilation controls.
  - Feeding programme.

- Litter management.
- Vaccination.
- Medication.
- Catching.
- Cleanout.
- Hygiene.

- Data sheets on site hygiene and disinfection
- Poultry food data
- Odour impact analysis reports x 2
- Noise nuisance reports x 3

4.4 The information submitted was assessed by the Agency and discussed with Grampian at a meeting in April 1999.

It was felt that the application was lacking in information on:

- The proposed nature and quantity of foreseeable emissions to each environmental media.
- The proposed techniques and technology for preventing emissions to each environmental medium.
- Measures for the prevention and recovery of waste.
- The ground conditions on the site.
- A non-technical summary.
- The measures planned to monitor emissions.
- Information on energy efficiency.
- Information on environmental accidents.

Conversely, in some areas the application made by the Operator contained information not required by the Agency, for example, the company's policy on medication for its chickens.

4.4.1 Research and development work to examine further the environmental impacts of poultry production was initiated at about this time. The research, led by the Silsoe Research Institute will look at how

(a) building design factors and
(b) operational factors,

influence the levels of dust and ammonia emissions arising from buildings. The research is being part funded by Grampian. This meant that no additional information was provided for the trial itself.

4.6 In reality, it would not have been possible for the Agency to determine this application because of a lack of information. However, as this was a trial a draft permit was drawn up in the format included in the (December 1999) Regulatory Package. Only example limits were put into the tables: no conclusions should be read from these, as site specific limits would be set with reference to the Operator's application. It was presented to the Operator in March 2000.

4.7 During discussions, the Operator advised that their farm was one of many similar and relatively simple installations, operated by their company and others in the poultry rearing industry. The management techniques and technology used is similar across installations and may therefore be suited to a general binding rules (GBR) approach.

4.8 It was evident on drawing up the draft permit that some aspects of the standard permit format may require modification for intensive livestock installations.

- Reporting dates may need to be modified to fit cropping cycles and the provision of relevant information to other parties.
- The section on Emissions from the Permitted Installation may need to be modified to reflect the emphasis on technical means rather than emission limit values.
- Thought needs to be given to how to permit should address both controlled and exempt wastes arising from the installation. The concept of permits incorporating Farm Waste Management Planning needs to be discussed.

5.0 CONFIDENTIALITY ISSUES ADDRESSED

5.1 The Operator agreed to supply any information that they had available, on the understanding that it would only be available to the Agency.

5.2 The Environment Agency stated that we would like to eventually put the IPPC trials in the public domain. The Operator did not have information on issues such as noise or odour from this farm unit and much of the information submitted with the application was from other companies' research. To allow the trial to proceed it was treated as "commercial in confidence". Such reports would not be considered confidential when submitted as part of a real application.

5.3 Some information supplied by the company was considered by them to be commercially confidential, for example details of feed formulations. In this instance it was considered that this information would not normally be required as part of a permit application.

5.3 There is nothing in the report that is considered confidential to the Agency.

6.0 REPORT BY THE AREA TEAM WITHIN THE AGENCY

6.1 Firstly from an area officers perspective with some experience of poultry units I was pleased to be asked to participate in this trial.

6.2 One of the main things that the trial has confirmed is how unprepared the poultry industry is for any environmental regulation, let alone regulation as comprehensive as IPPC.

6.3 Also confirmed by this trial was the lack of knowledge within the Agency in relation to the intensive poultry industry. This point has however proved useful for the training exercises as it essentially put all delegates on an equal footing.

6.4 There needs to be a clear time allocation made for staff involved with IPPC permitting. To avoid conflicts in work priorities and achievement of other OPMs (operational performance measures) this will need to be addressed through PPE (priority planning exercise) when the PPC regulations are enacted.

6.5 In theory Grampian, particularly in relation to the Anglesey farms, should have been in a better position to cope with IPPC regulation than most in the industry. The Anglesey farms are the only Grampian farms (possibly the only farms in the industry) with consented discharges, a point of contention that has cropped up with amazing regularity over the years. The company maintained that the regulation of site drainage through consents was an imposition that made the farms less economically viable than other farms in the group and in particular their competitors.

6.6 A positive aspect of IPPC is it should level the playing field and remove such accusations of unfair treatment.

6.7 I remain concerned over the probability of moving towards self-monitoring with auditing of results. My experience on Anglesey has demonstrated significant variability in the management of the farms, their tidiness and cleanliness, the reliance on manual diversion of drainage when cleaning out or washing down contaminated areas between cleaning out.

6.8 I am therefore in favour of maintaining a compliance monitoring regime or as a very minimum an audit monitoring regime. To reinforce this point in the last year seven of the ten consented growing (brooding) farms on Anglesey have on at least one occasion failed to comply with their consent conditions and one farm will be routinely formal sampled from the next visit.

6.9 The Anglesey farms are over 30 years old and by modern poultry farm standards fairly small having approximately 180,000 birds at each site. It is quite likely that IPPC will result in the closure of sites of this size and the redevelopment of some sites into much larger farms. These are likely to have a capacity of two to four times that of the existing Anglesey farms (400,000 and 800,000 birds) or possibly bigger adjacent units.

6.10 Given the likelihood of new or redeveloped sites I consider there is a need for the Agency to be involved from the pre planning application stages of a farm right through to the final development of a site. I draw attention to this as most of the farms on Anglesey are situated in some of the worst locations imaginable for such farms (i.e. in the lowest wettest locations, some of which are prone to flooding). It is said that these locations were imposed on the original poultry producer by the council who were unwilling to consider allowing planning at other locations that may have been more suitable.

6.11 This means that most are located on ditches and streams with low flows and an inability to easily cope with the site drainage. On still days odours from the units tend to linger though fortunately there is generally prevailing south-westerly breeze over the island which keeps such events to a minimum.

6.12 To address the above points it may be appropriate to set up a working group to consider best practice for all aspects including the location, design and layout of sites. Possibilities such as side wall ventilation of units could eliminate contamination of roof drainage, utilisation of soft drainage systems, minimisation of site roads and promoting the use of porous surfacing where site roads are required, provision of completely separate clean and contaminated drainage systems. The Agency needs to be playing a more proactive role in promoting possible options which may contribute to best practice on sites without going down the lines of specifying the actual design of facilities. Seeing if some of these aspects could be developed through linking in with the Silsoe project may be useful.

6.13 If GBRs are to be used we need to carefully consider whether they will be suitable for all potential locations for poultry units and should therefore be flexible.

6.14 A final positive point is I am sure that all those who have been involved both from industry and Agency are now a lot more aware of the demands made IPPC and its ramifications for the poultry industry.

Mark Medway
Environment Protection Officer.

7.0 REPORT BY THE OPERATOR

7.1 It was difficult to foresee what information the Agency would require to implement the permit system from reading the directive. We therefore decided to detail our operating systems and hope the information could be gleaned from this. We are exploring the GBR approach with trials at the Silsoe Research Establishment.

7.2 We have a concern that welfare issues sometimes cause us to work outside our ventilation parameters. This would obviously mean a variance to our permit and the obvious ramifications.

7.3 We try to operate all our sites to similar standards and would envisage that after initial Agency assistance we would be able to complete applications unsupported.

7.4 To give a more qualified opinion I would like more time to distribute the report to our divisional managers.

Iain Hepburn
National Engineering Manager
Grampian Country Chickens (Rearing) Limited

8.0 CONCLUSIONS

8.1 This trial was successful in that it allowed considerable learning to go ahead. It formed a basis for parts of the Agency's technical guidance on Pigs and Poultry.

8.2 It allows SEPA's SNIFFER funded research to go ahead with the same Operator building on the outputs from this trial.

8.3 Operators are unlikely to already have all the information to make what the Agency is likely to expect as an IPPC application.

8.4 A training requirement has been identified for the Agency's operations staff, to enable them to regulate intensive poultry farms in an integrated manner.

8.5 This sector may be suitable for a GBR approach with associated time and cost savings.

8.6 The permitting exercise has given the Agency the opportunity to examine the suitability of the standard permit design to a livestock installation.

ENVIRONMENT AGENCY

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 4

MARCH 2000

Birds Eye Walls
Kingston-On-Hull
East Yorkshire

The Compilers wish to thank all those – both within and outside Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compilers: **Mark Scott –Environmental Protection Team Leader**
Sue Everett –Environmental Protection Officer

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1.0 EXECUTIVE SUMMARY

1.1 This trial was intended to highlight potential problem areas which could cause major impediments to the IPPC permitting process.

1.2 The trial would also provide a learning opportunity for staff within the Agency and experience which could be incorporated into the training and development of other staff. Likewise, it would also offer similar opportunities for a company regarded as a market leader in its particular sector which had no previous history of regulation by the Agency.

1.3 It was generally felt that the trial had been a success and that a constructive dialogue was established between the Agency and the company. Indeed, the company have indicated their intention to continue the process in order to ensure they are in a strong position for the Sector deadline. The following observations are felt relevant here:

1.3.1. Agency guidance was received late in the process and this may have resulted in some lack of clarity when defining the specific information requirements. The issue of exactly what constitutes the information required for a comprehensive Permit Application remains, as yet, to be concluded with the company.

1.3.2. The sensitivity of industry to matters of confidentiality in a commercial environment needs to be appreciated by Agency staff.

1.3.3. The Agency needs to ensure that the 'regulatory context' of the permitting process is established at the outset with companies who have not been subject to regulation previously. This would include an explanation of the Agency's role and objectives along with key terms and concepts such as BAT and the identification of environmental targets and assessment of risk.

1.4 The draft permit provided was useful. Agency staff with a strong grounding in PIR and the Waste Licence Process Handbook and Library should feel comfortable with the construction of an effective Permit.

1.5 IPPC offers clear opportunities for integrated working within the Agency. However, it is felt that the 'limiting factors' need to be recognised if the IPPC permitting process is to be introduced successfully and a good reputation established. The key factors may be summarised as:

1.5.1. Success will depend upon the selection of staff with sufficient levels of technical competency to address the issues arising. It is envisaged that a relatively high level of experience and competency would be required.

1.5.2. The process will be resource intensive and this is likely to mean that experienced staff are diverted from other duties for considerable periods of time.

1.5.3. Account Managers should have a well-developed awareness of all existing Agency functions in order to ensure the recruitment of a 'balanced' team and production of a permit which recognises the 'whole environment'.

1.6 The presence of a Trade Association representative was accepted as useful in ensuring the group were alerted to potential concerns and common issues within the Sector.

1.7 Long before the conclusion of the trial, the Agency were made aware by the company of several approaches by environmental consultancy groups keen to offer their services as IPPC 'experts'.

2.0 INTRODUCTION TO IPPC PERMITTING TRIALS

2.1 Papers were approved by both the IPPC Project Board and the IPPC Implementation Group in November 1998. The papers proposed that IPPC Permitting Trials should be set up.

2.2 The approach to be taken in the trials was:

2.2.1 Improve the Agency's understanding of the IPPC permitting process.

2.2.2 Identify any pinch points or problem areas that can be resolved before IPPC goes live.

2.2.3 Gain and co-ordinate experience to guide the smooth implementation of IPPC at Regional and Area level.

2.2.4 Build on the Agency's existing regulatory experience.

2.2.5 Maximise efficiency into delivery of IPPC permits.

2.2.6 Produce clear documentation of methodology and findings – this report being one such example.

2.2.7 Regional Groups to play an overseeing role as an aid to consistency.

2.2.8 One of the two IPPC Project Operations Co-ordinators would be assigned to each trial to give advice, where required, on IPPC and to act as a conduit on experience gained to other trials.

2.3 The following regime was adopted in order to achieve the above approach.

2.3.1 There should be 8 trials: one in each Region to minimise disruption and maximise experience.

2.3.2 The team involved in the trial should be small and focused, but have access to local specialist advice.

2.3.3 The first two trials should be carried out at sites already regulated by Agency so as not to introduce unnecessary complications at an early stage.

2.3.4 The first two trials should be carried out as soon as possible – well in advance of the regulations. They were to be very much "scoping trials" intended to identify the main problem areas and to confirm there are no matters that could cause a stoppage in the implementation of IPPC within Agency.

2.3.5 The timescales for the trails would be reviewed in the light of experience.

3.0 BACKGROUND TO THIS TRIAL

3.1 North East Region agreed to run the IPPC trial for the Food and Drink industry, and were asked to identify a suitable candidate from within this sector.

3.2 Birds Eye Walls at Hull was identified as a suitable site. The company is a part of the Unilever Group, and as members of the Food and Drink Federation have been aware of and involved in the development of IPPC policy at a national level.

3.3 The Birds Eye Walls site in Hull manufactures frozen foods, namely fish products, frozen vegetables and rice. A variety of raw materials are prepared, processed, cooked and then packaged and frozen on site.

3.4 Both Unilever and Birds Eye Walls have corporate environmental policies. In addition the Hull site has its own policy statement for environmental protection, and nominated managers are responsible for ensuring that environmental considerations are taken into account at all levels of decision making.

Environmental issues are a part of the corporate agenda. The company participated in the Humber Forum Waste Minimisation Project, and carries out an annual audit of environmental impacts, leading to the production of annual environmental improvement targets covering issues such as waste minimisation, effluent monitoring and materials recovery

3.5 A number of features were of particular relevance to the trial:

3.51 The site has two consented discharges to sewer.

3.52 Ammonia is used as a refrigerant, and its storage on site comes within the COMAH Regulations.

3.53 The site is situated within an urban area in close proximity to housing. Odour and noise are of particular concern.

3.54 As a user of packaging, the company also has responsibilities under the Packaging Regulations.

3.6 The company agreed to participate in the trial. A multifunctional Agency project team was set up, comprising officers from Environment Protection, with both Waste and Water Quality backgrounds, and PIR. The Agency Trial Co-ordinator within the Area was Mark Scott (Environment Protection Team Leader).

4. PROGRAMME

4.1 Contact was made with Birds Eye Walls, and a preliminary meeting held with the company in May 1999. Discussions revolved around the principles of IPPC and the aims and objectives of the trial. The company agreed in principle to take part in the trial.

4.2 A second meeting was held between Agency and the company in May 1999. This was followed by a tour of the factory to enable Agency staff to understand the manufacturing processes and their likely environmental impacts.

4.3 The company agreed to prepare a draft IPPC application. The likely content of the application was discussed, and it was agreed to base this on the requirements of Article 6 and the considerations listed in Annex IV of the Directive. A letter was supplied by the Project Team detailing an interpretation of this.

4.4 The company supplied a draft application in July 1999. This was based on information that was already available to the company. Further information was supplied to the Agency in September 1999.

4.5 A draft IPPC application form was provided to the company in October 1999, when this became available.

4.6 A draft permit was drawn up based on the draft IPPC permit format. This was formally presented to the company in November 1999 for their consideration. By now the Agency had produced draft guidance in the form of a draft Common Issues Document and draft guidance on Best Available Techniques for the Food and Drink Industry and this was also supplied to the company on a confidential basis.

4.7 A further meeting was held with the company in January 2000 to enable the company to provide feedback on the permit and the trial process itself.

4.8 The company had comments on the design and layout of the permit. However, their main concerns related to the level of information required by the Agency as part of an application, commercial confidentiality of submitted information, and the relationship between IPPC and environmental management systems such as ISO 14001.

4.9 The company commented on the level of information that would have to be supplied to the Agency, both as part of the IPPC application and in order to comply with the draft permit conditions. The initial drafts of the guidance documents were lengthy, detailed, and rather unwieldy. There was a perception that these requirements would need to be in place from day one, rather than a rolling programme of environmental improvements which would be implemented over time.

4.10 There were concerns over how the Agency would ensure that any commercially confidential information that was submitted as a part of the permit application would remain confidential. There is a natural disinclination to disclose information which

might confer a competitive advantage, and there was discussion over how such information would be used by the Agency, particularly in relation to the progression of BAT, and the need to consider comparable processes and technological advances.

4.11 The relationship between IPPC and formal environmental management systems such as ISO 14001 was examined. As an environmentally aware organisation that has achieved environmental accreditation on certain of the company's sites, Birds Eye Walls were concerned that the IPPC process would be an unnecessary duplication of effort.

4.12 The Agency Project Team and the company were agreed that the trial had achieved its objectives. However Birds Eye Walls has decided to continue working towards achieving an IPPC permit when the Regulations covering the food and drink sector comes into force. This will involve reassessing the way in which environmental impact information is collected, analysed and presented, and also the implementation of some of the suggested improvement conditions. Agency officers will continue to work with the company in achieving this goal.

5.0 CONFIDENTIALITY ISSUES ADDRESSED

5.1 The company agreed to supply any information that was available on the understanding that it would only be available to the Agency.

5.2 The Agency had stated that they would like to eventually put the trials in the public domain. It was agreed that before going public, the company could review the information that was to be placed in the public domain. Any confidentiality issues would be resolved at that time.

5.3 The relevant Trade Association was represented throughout the trial. This would enable relevant learning points to be more readily broadcast throughout the industry saving both time and resources for both the industry and the Agency.

5.4 The draft permit resulting from this trial had example conditions inserted to make the draft realistic. Both the company and the Agency understood that these conditions were examples and may have no relevance to any permit formally issued under IPPC.

5.5 Prior to the external release of this report, there should be a review with the Operator to ensure there are no confidentiality issues that require resolution (see 5.2).

5.6 There is nothing in the report that is considered confidential to Agency.

6.0 REPORT BY AREA TEAM WITHIN AGENCY

6.10 The area welcomed the opportunity to undertake one of the permit trials as it allowed some of its staff to gain some knowledge of IPPC.

6.11 The site demonstrated many of the features that will fall within the remit of the IPPC Regulations, in terms of emissions to air, water and land, including noise and odour, the use of raw materials including water and energy, the recovery and recycling of wastes, and the application of BAT to an established manufacturing process.

6.12 A project team was set up to ensure that the appropriate expertise was available to produce the permit as well as to share the experience of permitting under IPPC as wide as possible. Valuable support was given by members of the IPPC Project Team.

6.13 Unlike those in the waste and chemical industries, the food and drink industry has not previously been subject to comprehensive environmental regulation. Birds Eye Walls would consider itself to be an environmentally responsible company, with nominated environmental managers and environmental policies. Yet initially the company struggled to comprehend the quantity of information required by the Agency and the level of detail necessary if the permit is to lead to meaningful assessment and reduction of environmental impacts.

6.14 There was little information available at the start of the trial relating to the type of information and level of detail required by the Agency to be submitted with an IPPC application. Draft guidance became available during the trial. Both the Project Team and the company found the draft guidance useful, albeit rather unwieldy in format.

6.15 The production of the permit itself, based on the draft IPPC permit template was a fairly straightforward exercise. However the template format was difficult to manipulate, and it was particularly difficult to insert site-specific conditions.

6.16 The company found the draft permit application form easy to use.

6.17 One of the company's main concerns was over the disclosure of commercially confidential information submitted to the Agency as a part of the permit application or permit conditions. It was therefore disappointing that an Agency officer based at Head Office supplied information about the trial to an environmental journal without the company's knowledge or consent. The submission and subsequent use of confidential information is a very real issue to those working in a commercial environment, and one that must be addressed by the Agency if customer confidence is to be maintained. .

6.18 As a final conclusion, the trial itself gave invaluable experience to the area. The use of a project team to produce the permit was necessary to enable all of the issues to be adequately addressed. The trial highlighted the importance of pre-application discussions, particularly for those industrial sectors experiencing environmental regulation for the first time.

7.0 REPORT BY OPERATOR

7.1 Discussions with EA staff were always cordial and informative with an insight into the new regulations given. The late delivery of initial draft guidance documentation did cause concern and some degree of confusion.

7.2 The level of detail required for the proposed permit will place an excessive burden on companies and this must be recognised. This said, we have yet to confirm what is specifically required in spite of the 'mountain of data' which we have submitted.

7.3 The application of the draft permit legislation was done in a prescriptive manner with an emphasis on existing IPC legislation, although this may have been caused by the late delivery of the guidance notes. The process did not seem to be proportionate to our very low level of environmental impact/effects.

7.4 As the food industry has not been subject to comprehensive environmental regulations before, it must be recognised that to gather the information to the level of detail that seems to be required does take time and resources which we can accommodate in our environmental management system, but could others in our sector actually deliver this?

7.5 The area of confidentiality still needs to be addressed.

7.6 The constant reference to BAT is another area that causes concern as opposed to BATNEEC that is already an industry standard. The IPPC and ISO relationship should be further explored. It is believed that the concept of General Binding Rules provides the mechanism for using EMS for the food industry to satisfy the permitting requirements.

7.7 Both the company and the Agency staff involved believe that continuing this trial to its logical conclusion would be beneficial to both parties.

7.8 The overall objective of Birds Eye Walls and the Food and Drink Federation was to achieve an approach to the permitting/application process that was proportionate to the environmental risks associated with the food industry. It was anticipated that, for the food industry, the requirements of the IPPC Directive could be achieved through developing simplified/flexible permitting procedures.

7.9 BEW/FDF were disappointed that no flexibility had been demonstrated by the EA, apart from modifications to the permit improvement actions agreed at the last meeting. It was apparent that the EA had been applying a very strict interpretation of the Directive adopting a similar approach to that developed under IPC for the chemical and other potentially heavily polluting industries.

7.10 Due to the delay in the issuing of the IPPC Regulations it is suggested that it may be beneficial to utilise the time that is now available to study these alternative approaches to the permitting procedures for the food industry.

8.0 CONCLUSIONS

8.1 The second tranche of trials was intended to focus on the range of industrial sectors covered by the IPPC Regulations, with one trial being carried out for each industrial sector affected. This would provide as much information as possible on the likely challenges that the Agency would encounter, and would highlight any potential problems with the permitting process. It would also enable any sector-specific issues to be raised and addressed at an early stage. This trial focussed on the experiences of implementing IPPC in the food and drink sector.

8.2 In order to achieve its objectives, the trial took place whilst draft guidance on IPPC was being drawn up. The Agency project team therefore had to make certain assumptions and interpretations which may be at odds with subsequent guidance.

8.3 The food and drink industry has not been subject to comprehensive environmental regulation prior to IPPC. The need to monitor and evaluate emissions and plant operations on the basis of their environmental impacts is likely to be a new concept for many within the industry.

8.4 The trial identified several important issues:

8.4.1. The company was aware of the broader implications of IPPC, largely through its involvement with the trade association, and through its parent company.

8.4.2. Companies are unlikely to have all the information immediately available that the Agency would require in order to determine the application.

8.4.3. Companies are likely to seriously underestimate the level of information required, and the resources needed to collate that information.

8.4.4. The Agency is likely to underestimate the time required to participate in pre-application discussions. However this will be essential to ensure that companies are fully aware of what will be required of them in order to submit an application capable of determination.

8.4.5. Companies will require convincing of the justification for what they perceive as onerous permit conditions in relation to environmental objectives.

8.4.6. The Agency needs to spend time at the outset establishing the 'regulatory context' of the process.

8.5 The multi-functional nature of IPPC lends itself to a more integrated approach, drawing together specialist knowledge from a number of Agency functions.

ENVIRONMENT AGENCY

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 5

MARCH 2000

Contract Chemicals (Knowsley) Ltd
Penrhyn Road
Knowsley Business Park
Merseyside

The Compiler wishes to thank all those – both within and outside Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compiler: **Paul Stevens**
PIR/ RSR Officer

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1. BACKGROUND TO TRIAL

1.1 The North West Region was asked to participate in one of the national IPPC trials. The Chemical sector was allocated to the Region due to the high concentration of organic and inorganic production facilities. The trial would attempt to consider some of the more detailed issues of applications, determination procedures and the permitting for a complex multi product site.

1.2 The products from the trial were to be an application (provided by a selected company), a draft decision document, a draft permit and an end of trial report.

1.3 Contract Chemicals (Knowsley) Ltd were approached and asked to participate within certain confidentiality limitations. The Knowsley plant is one of four manufacturing sites belonging to Contract Chemicals and is situated on 9 acres of land near Knowsley village, Merseyside. The site employs around 160 people and manufactures a wide range of organic products, inorganic products and intermediates for the pharmaceutical, agrochemical and allied industries. The plant and equipment is typically multipurpose and the manufacture is mainly batch processing. Over 200 products can be manufactured on the site.

1.4 Contract Chemicals (Knowsley) Ltd has seven IPC authorisations and is a top tier COMAH site. The site also has two natural gas fired boilers of less than 50MW to provide steam for the processes and a number of dryers for toll drying of customer products.

1.5 The site is accredited with an Integrated Management System (BS8800),Environmental Management System (ISO14001) and EMAS.

1.6 The trial is considered in two phases:
the preparation and completion of the application by the operator and,
the determination process undertaken by Central Area.

2. PROGRAMME

2.1 The general remit of the trial was to obtain a reasonably detailed application, determine the application and produce a draft permit. The key considerations were to allow the operator and the Agency to attempt, as closely as possible, a finished product using the guidance available. This approach would necessitate a detailed consideration of the finer details of the Regulations and guidance not previously considered in trials.

2.2 In April 1999 the operator was approached with an outline of what the Agency would require for the trial. The operator agreed in principle to take part in the trial and a number of meetings took place over the following months as the application developed. At these meetings the format and content of the application were discussed with the current site Inspector Paul Stevens and occasionally Doug Munkman and Sara Spillett from the national project group. The operator was represented by Paul Kinley the Company SHE manager, Richard Leese the company Environment Manager and Geoff Dickinson the Safety Manager.

2.3 In the absence of a template application form the operator agreed to structure its application based on Article 6 of the IPPC directive.

2.4 The operator decided to produce the application using a column layout. This format allowed the incorporation of "speaker notes" to raise questions or clarify key points as the sections of the application were described.

2.5 The application was completed in August 1999 and submitted to the Agency. The application consisted of 321 pages with detailed process and plant descriptions and a significant number of appendices.

2.6 To determine the application within the Agency a small team was selected. Due to resource considerations the team consisted of representatives from the PIR section, Contaminated land and Environmental Protection. The team were selected on the grounds that they were likely to provide significant input to the determination process. The contaminated land representative, Kerry Diamond, would be able to consider the detail of a supplied land survey while the EPO for the area, Lesley Ormerod, had qualifications in noise studies as well as a knowledge of the locality. Other functions were considered but not directly involved for reasons detailed in the decision document.

2.7 The application was then assessed against the most up to date guidance at the time. The key documents used for assessment were taken from the IPPC Regulatory Package dated 21/12/99 and the Agency Technical Guidance notes.

2.8 The permit produced was also based on the format from the December draft but was subsequently adapted to utilise the changes in the March draft.

2.9 Throughout the application and determination process the trial was used as the basis for discussions with the company, the industry association CIA, Local Authorities and internally within the Region and Area offices.

2.10 The End of Trial Report will highlight issues and then expand on those issues using text in Italics.

3. CONFIDENTIALITY ISSUES

3.1 The operator agreed to provide an application on the condition that it be considered commercially confidential and not made public. This allowed an open exchange of information for the purposes of the trial.

3.2 Currently there are around 20 processes that have been granted commercial confidentiality under the IPC regime. It was the detailed reaction chemistry of these products that was agreed as commercially confidential. However, a short general description was placed onto the register to ensure the public had an indication of the nature of the activity being undertaken.

3.3 To obtain the full benefit from the trial the operator is considering producing a shortened version of the application in an electronic format that may placed into the public domain. This will allow the public or similar industry groups to download the application from the Agency website without significant cost in publishing.

4. APPLICATION COMMENTS

4.1 The application is a significant document consisting of a 321 page report, in a lever arch file, and a separate consultant's report on the state of the land.

4.2 The application took the operator an estimated 400 man-hours to complete with an additional 30 hours spent in meetings with the Agency. The operator also recognised that the application was likely to be deficient in a number of areas due to the restrictions of time and the lack of available guidance.

4.3 The format of the application used the section headings from Article 6 of the IPPC directive. This approach allowed the key attributes of IPPC to be considered without awaiting the detailed questions planned for the new application form.

4.4 The application utilised significant portions from previous IPC applications as the basis for the descriptions of the activities.

5. ISSUES RAISED BY THE APPLICATION

5.1 Definition of installation.

It was decided during the development of the application that the site as a whole should be considered as the installation due to the limited guidance available at the time of drafting.
Subsequent work outlined in the decision document concluded that there should be four installations on the site covered by one permit.

Refer to appendix 1 for details on reasoning behind the decision.

5.2 Matrix approach to plant and processes

The operator produced a number of matrices that linked reactor plant to abatement equipment and products.
This was a new approach for the company and although took time to prepare proved to be of significant benefit when determining the application.

5.3 CIMAH report.

The operator provided a copy of the upper tier CIMAH report as an appendix to the application.
Even with some of the CIMAH appendices removed this part of the application consisted of 132 pages of information. The direct relevance of such a document was considered in the decision document.

The CIMAH report was hardly cross referenced during the review of the application and as such its potential was unused.

The CIMAH report has never been placed into the public domain before and so clarification is needed on the confidentiality and potentially national security issues prior to placing the full application on the public register.

Potentially also the accidental copying of the CIMAH report to the public register needs to be considered.

5.4 Process descriptions.

The application contained 46 pages of process descriptions for around 110 products. The process descriptions were typically taken from their relevant IPC applications. The level of description varied from 10 pages describing the manufacture of a diol product to two lines for the manufacture of an amine called Nipstrip B. Additionally, 40+ products could also have been included within the application. This number of products was previously authorised by the use of the so called "envelope authorisations". This approach relied greatly on the process definitions given in SI472 that is likely to be replaced by Schedule 1 of the PPC regulations.
For a company like Contract Chemicals who manufacture a significant variety of products these products will need to be described as activities and so may lead to the installation undertaking 200+ activities as described in Chapter 4 of Schedule 1.

Each activity will be described within a section of the schedule. This reallocation will take a significant time to complete for the number of products being manufactured.

Schedule 1 of the PPC regulations is worded in such a broad manner so as to include previously unregulated products. An example is the manufacture of Thiocyanates, which could now be described as an activity under section 4.1 (a)(iv).

The use of wording in Schedule 1, Chapter 4 of "(a) Producing organic chemicals ***such as*** *-" also begs the question of alternatives to those listed in the schedules and if so who decides if they are to be included?*

The above issues are important as any charging scheme is likely to use the groupings in Schedule 1 as a basis for annual costs.

The previous regulatory history with the company allowed a detailed assessment of the chemistry of reactions as they were applied for. The IPPC application has the potential to "overwhelm" the assessment team with chemistry and possibly lead to a product or group of products being manufactured without adequate consideration. These considerations may miss the possibility of significant exothermic reactions or the accidental production of by-products, for example.

The level of process detail, as previously supplied under IPC, for this number of products may become unworkable in a single application. Clearly a minimum information level is required for each product, typically; raw materials used, general reaction chemistry, by products or off gasses released and any significant storage or containment issues raised by the materials used.

To ***require*** *the supporting information for each product (activity) as detailed in (TG) IPPC24 such as process flow sheet diagrams, PID drawings, control system logic, summary of operating procedures etc., will be very difficult and lead to an unworkable document.*

Clearly allowance for some form of grouping of products that can describe the generic similarities is needed.

5.5 Scale of production.

The operator manufactures a full range of products. However certain products make up the bulk of the mass throughput. Amine diols and chlorination reactions are two examples. There are also a significant number of products in the application that are trials, small-scale production or dormant awaiting a potential customer.

No mass production details are supplied with the application for any of the products.

The lack of mass production figures is considered a very significant issue. The production figures enable a focus to be maintained on the "significant" activities on site. Diol production may account for only 6 products but will produce several thousand tonnes of product per year. Whereas there may be 80 products manufactured on a small scale but only producing a small quantity of product per year.

The mass production focus has to be balanced with the chemistry of the reactions involved to ensure the significant activities are highlighted in the application.

5.6 Dryers

The site operates a number of drying systems including fluidised beds, paddle dryers and cone dryers. Where these plant were used for prescribed processes under IPC they were subject to the conditions of the appropriate authorisation. However the site also operated a toll drying facility for customers. A concern was that all the dryers will be brought under the remit of an IPPC permit as part of the Installation. The implication is that toll-drying companies outside may become more competitive due to the lack of regulation on them.

Dryers are maintained within two buildings on the site, the surfactant hall contains six dryers and the dryer house contains two fluidised bed dryers. Where a dryer is specifically used for a product it will clearly become part of the activity and therefore covered by the permit. There are 20 products listed in the application that can be directly associated with 5 of the dryers. This leaves 1 dryer in the surfactant hall and two fluidised bed dryers with no direct link to the activities.

It would be reasonable to include the only dryer left in the surfactant building unmatched to a product within the definition of the installation as it uses the services provided e.g. steam, to the building and as a possible replacement for another dryer.

The fluidised bed dryers in the dryer house are not part of the "unit" involved in any Schedule 1 activity, i.e. not used for finishing a product. Therefore to be included within an installation permit the activity needs to be directly associated and have a "technical connection" with the stationary technical unit.

The policing of such a non-IPPC regulated piece of plant would be difficult, as it would be reliant on the operator maintaining clear records of materials being dried on the plant.

There are two alternative scenarios if the dryers were used "just once" for a prescribed activity; the conditions of the permit are only in force during the time the prescribed activity is going on or, the dryers become permanently part of the permit.

The additional work, and possibly expense due to abatement equipment, required to include the dryers has to be balanced against the cost of applying for a variation in the future of the risk of illegally operating the plant without a permit.

Toll drying consists of importing products from outside the company and drying off typically water or solvents. A possible means of securing a link to the installation would be assuming the definition of "producing" a chemical by chemical processing included drying? This is a very tentative method and it has the potential to bring into IPPC a significant number of small companies that only do toll drying.

5.7 Other activities not covered by schedule 1

The operator raised concerns over the manufacture or processing of other products that were not directly described in schedule 1 (of the draft PPC Regulations) but were produced on the plant used for an activity. The original example was the manufacture of thiocyanates, a product not previously regulated under IPC. However further examples could include using the reactors for toll distillations or separations of intermediates.

Previously any non-prescribed processes that used plant utilised within an IPC authorised process were covered by the "Interpretation Rules" within the relevent regulations. Within IPPC, however, there are two means by which they may be covered by the permit; namely the manufacture fits within a Schedule 1 description or there is a technical connection to an activity.

The Schedule to the PPC regulations has a much broader description base and so the number of activities outside the regulations should be very small.

The technical connection definition may be more difficult as seen with the dryers. However links can easily be made to joint storage facilities for raw materials and finished product or effluent treatment and therefore they can be considered integral parts of the overall industrial activity.

The manufacture of a non Schedule 1 product on an installation could be argued as not having a direct association with the stationary technical unit, as it would not have an asymmetrical relationship with the technical unit. If this was agreed then this activity would not be included as part of the installation.

Consequentially it is foreseeable that a certain product may not be covered by the IPPC permit for the site as a whole. Clarification is needed.

5.8 Boiler plant

The boiler plant on the site has a capacity of less than 50 MW and as such would be described as an activity under chapter 1, section 1.1 Part B. The boilers supply process steam for the manufacturing processes.

Clearly this would be described as an associated activity that has a technical connection and therefore come under the installation definition.

5.9 Plant descriptions

The operator provided three references to plant.

A basic list of each reactor line and dryers and where they were located.
A detailed description of the dryers (not previously described in IPC applications)
An outline of plant description (73 pages of bullet point plant descriptions)

Each item of plant was described in the appendix giving the general description, the capacity, the materials of construction etc. A typical reactor line would consist of the

reactor, condenser, header tank, distillate receiver, absorbers, pumps and abatement plant. This was described in four pages of text.

This level of detail could prove to be a useful reference when considering the activity detail. However it added considerably to the bulk of the application and would be of limited environmental use in the public domain.

The plant is typically multi product and as such a more useful approach would have been to describe the reactor lines of which there are 17. The description should have included a process flow diagram showing the means of raw material addition, the reactor, associated overheads, absorbers and final abatement equipment. These drawings would have greatly aided the understanding of the plant layout. They could have then been backed up with a more general description of plant, venting and emergency relief provisions.

The operator noted that plant not previously described under IPC required some research to obtain the detail provided in the application adding to the cost of application preparation.

5.10 Energy usage

Energy monitoring on the site has been undertaken since 1996 as part of the EMAS accreditation criteria. The operator was able to provide a three-year view of energy consumption (using electricity, gas, heavy fuel oil, and diesel fuel) and then relate this to the total mass of product produced. Energy efficiency consultants were employed during this period and a number of initiatives such as variable speed drives, higher efficiency light fittings and optimising boiler performance have all proved successful.

The energy efficiency guidance produced by the Agency lists a number of criteria that would need to be supplied with an application. These included:

- *breakdown of delivered and primary energy consumption*
- *breakdown of energy consumption by area*
- *environmental emissions associated with consumption of energy*
- *and sectorial benchmark comparison figures.*

The application provides only the first of the Agency requirements. To provide the second part would be very difficult (if not impossible on an activity basis) due to the multi functional nature of production.

Some flexibility in the manner by which energy consumption is reported may be required from the Agency to obtain a meaningful breakdown. The structure of reporting proposed in IPPC 24 section 2.5 lends itself to continuous activity processes rather than multi activity sites.

One approach may be to break the energy usage down on an installation basis and then relate this to a specific activity or product as a key indicator and then scale the process up according to the total production.

The guidance produced for energy efficiency essentially describes an Energy Management System which brings in quantifiable steps to prove energy efficiency is part of all site operations. This may be very difficult to prove in application format.

5.11 Water efficiency

The operator provided figures to show total water usage on an annual basis and then related this to the total production.

How water usage and efficiency is related to a multi activity site is again not clear.

Realistically as each new activity or product is introduced a water usage assessment (or mass balance) needs to be undertaken. This would then be the key tool for minimisation and subsequent bench marking. A separate assessment will then be required for generic site activities such as raw material storage, cleaning, steam provision.

The information required on a product basis will simply not be available yet and would require significant resource allocation to obtain for the activities currently being undertaken.

5.12 Raw materials.

Some 400 different raw materials are on the site. These are delivered by road and contained in either dedicated bulk storage tanks, the raw materials and finished product warehouse, the flammable materials store or the external raw materials storage area. A plan of the storage arrangements, details of the 24 bulk storage tanks and a full list of raw materials were included in the appendix. Examples of raw material and finished product data sheets were also included.

A previous IPC variation required a plan of all waste storage facilities. This was considered useful by the operator and extended to all bulk storage.

ISO 14001 and EMAS would typically ask for such a listing of raw materials to be prepared and as such this part of the application was quite straightforward.

However, as described in the decision document, this level of information would not be sufficient under section 2.2.1 and 2.2.1 of (TG) IPPC 24. The requirement to provide a list of reasonably practicable alternative raw materials could have a significant impact for two reasons.

1. *There may be commercially confidential issues related to the development of a process i.e. a number of alternative solvents could have been tried but were unsuccessful. This would be valuable to a competitor trying to develop a similar product.*
2. *To produce the list of alternative raw materials for current products would be a very time consuming exercise.*

5.13 Emissions from the installation

The operator described releases to three media: air, land and sewer. The site does not release directly to controlled waters to a land soak away. Process releases are direct to sewer via settlement tanks or to air via process releases, fugitive releases or bulk storage venting.

The application provided a list of 13 process release points to air and one to sewer. Of the release points to air 6 were previously subject to conditions within IPC authorisations, 4 were from dryers, 1 from a reactor not authorised, 1 from the Lab fume cupboards and the last from the site boiler. Subsequent matrices were provided that linked the release point to reactors, abatement plant and typical release parameters.

The use of matrices provided a very useful tool for cross-referencing the activity to the abatement equipment and subsequent release point. This approach came about as a direct result of the trial.

5.14 Air emissions from the installation and their significant effects on the environment.

The operator provided a table that summarised the releases from the installation under normal operating conditions and under transient peak conditions, such as charging operations. Typical values were taken from previous returns and monitoring information. Allocated to each release point was a parameter, the mean and maximum concentration, mass flow and volume flow of release. The concentration values were typically based on the normal and transient operating conditions and related closely to the IPC authorisation limits. The mean and maximum flow rate and volume flow rates were based on stack exit velocities of 5 and 9 m/s. It is assumed that the different exit velocities were based on variable total flows due to the use of LEV passing through the scrubbers.

In 1997 and 1998 a consultant provided two dispersion models for the releases from the three main process release points at the Bonner building, the TDC building and the Surfactant hall. The consultant's conclusions were that under normal operating conditions there was no significant impact on the environment.

The dispersion models were based on previous production figures and even design plans for the site. It would be anticipated that modelling will be undertaken again to reflect the full range of operating conditions for the plant.

The matrix of releases compared to the parameters provides an indication of the total quantities, flow and concentration of releases from the activities. The operator highlighted two conditions, normal and transient. Transient conditions were peaks in concentration associated with specific operations such as charging of reactors. These transient conditions typically resulted in concentrations of releases exceeding the benchmark release limits given in guidance for a short period of time. Details of these transient conditions are required when drafting the permit.

The operator provided figures for mass releases in kg/hr for normal and transient conditions. It would be easy to assume that the transient conditions provided the worst case scenarios for dispersion modelling. This would not be a problem if the

ground level concentrations were acceptable, but too high a level would require careful study of the likelihood of this scenario occurring.

All of the activities on the site are operated on a batch process basis. Releases to atmosphere are likely to be via abatement plant during charging, operation at atmospheric pressure, reactor venting and any subsequent distillation or during process. Therefore each product must have a release profile. How these release profiles may interact if a number of reactors are all being utilised at the same time and vented to the same final scrubber needs to be considered.

Under IPC fume cupboards were excepted from most authorisations. It is not clear how they will now be treated under IPPC.

5.15 Releases to sewer

Surface water and effluent drains are directed to a single interceptor collector sump prior to pumping to a main site gravity settlement separator. A single drain isolation point is available to stop all releases from the site to sewer.

There were considered to be very few issues related to the releases to sewer.

5.16 Noise

The operator provided the results from a boundary noise survey carried out in 1998. There are no continuous operations at the site which cause a persistent noise impact.

As detailed in the decision document the information supplied, as part of the application, was clearly insufficient to allow an assessment to be completed. The key items missing were the details of how, where and when the surveys were completed and the equipment or standards used to obtain the measurements.

5.17 Techniques for preventing or reducing emissions

The operator provided a brief statement that procedures were in place at the development stage of a new product for optimisation, selection of raw materials, energy efficiency, waste minimisation and assessment of environmental impacts.

This procedure is critical to many parts of the assessment process under IPPC. Indeed under (TG) IPPC 24 a significant proportion of the questions raised can only be answered by considering the results of the development stage of the new product.

The operator will need to be able to provide an auditable trail that shows a product can be made on a particular installation, the abatement equipment is adequate and there are no conflicts with other processes venting to a combined LEV. This audit trail will have to be part of the new product review.

The consequence is that current products need to have an auditable trail to prove the abatement equipment available can work. This should not be an onerous task as a similar assessment was required under IPC.

The guidance has to be adapted to allow multiple activity sites to be described in an appropriate manner.

5.18 Measures for waste recovery

The company operates a programme of process optimisation. This involves regular meetings of staff to improve yield and waste minimisation. The programme looks at solid and liquid waste on a product and authorisation basis. Typically 4,000 tonnes per year of waste is produced from the site which relates to 0.4 tonnes of waste per tonne of product.

Information was available as a result of the EMAS, 14001 and the ISR work.

5.19 Justification of BAT

Justification of BAT was against the current Inspectors Guidance Note S2 4.02. The application was assessed against the headings given in the guidance document. Against most of the headings a simple paragraph was used to describe steps employed at the site for compliance.

The new guidance will make answers to this question much more prescriptive. The key problems will be trying to relate the new guidance to a multi activity site.

5.20 Measures planned to monitor emissions

The operator listed the continuos and non-continuos monitors employed by the company on the final release points and related them to the appropriate release point.

The operator did not include any indication of the set point of alarms or actions to be taken if an alarm is sounded.

5.21 SUMMARY OF KEY ISSUES WITH APPLICATION.

a) The application was based on the assumption that the whole site will be covered by one permit.

b) The site would appear to consist of 4 installations that "with agreement with the operator" would be covered by one permit.

c) The operator may object to 4 installations if charging scheme relates to this.

d) The application was a significant document of 321 pages plus a separate land analysis report.

e) Although a significant part of the information was available from previous IPC applications, putting it in a format required by IPPC required considerable work by the company.

f) The company had a large amount of information available as a result of being accredited to EMAS and ISO 14001. However it was clear that additional information was required for the application to be complete.

g) The site manufactures up to 200 products. These products could be described as 200 activities depending on the nature of the individual products and their location in Schedule 1 of the regulations.

h) The operator will be required to review all products into the new Schedule 1 groupings.

i) The use of matrices greatly improved the data handling of products to plant, abatement equipment and release points.

j) The operator did not provide mass production figures making a full assessment of environmental impact impossible.

k) The CIMAH report was rarely referenced and yet added considerably to the size of the application.

l) If the CIMAH report forms part of the application does go onto the public register?

6. OPERATOR REPORT

6.1 The aim for Contract Chemicals (Knowsley) Limited was to produce a pilot application:
This raised the following issues:

A. What is the definition of the installation?
B. How would the application be structured to describe the chemical processes?
C. How much detail is required for process descriptions?
D. How would the application document be structured?

6.2 Issue A.

For the purposes of the pilot project, the site was considered the "installation".
The site has four main production buildings:

The surfactant hall
The Bonner building
The TDC
The Diol plant.

The processes in each of these production buildings are covered by one or more IPC authorisations.

The surfactant hall has two authorised processes and a number of dryers, which do not form part of any authorisation. The two authorised processes are only a small part of envelope authorisations, which are primarily operated in other buildings.

The Bonner building has four authorisations covering its operations. These processes are carried out in two separate sets of equipment but use a common abatement system.

The TDC building has five authorisations covering its processes which all lead to a common abatement system. Three of the authorisations have processes which are operated in different buildings.

The Diol plant has one authorisation and one abatement system, although other processes in this authorisation are operated in the TDC and Bonner buildings.

Clearly from this description there are a number of "installation" descriptions that could arise. For example:

a. Each building could have an installation, but different "activities" or scheduled processes are operated.
b. Each scheduled activity could be an installation (much like the current IPC system) but this does not improve the current "permitting" system.
c. Each abatement system and final release point could be an installation. However, a number of scheduled activities use common systems.
d. Each reactor could be defined as an installation. Clearly, this is not a desirable system.

We therefore believe the most appropriate approach to be a single site permit describing the site activities, thus encompassing all aspects of the site and not just the scheduled activities. This system would then describe the site activities thus highlighting areas that may conflict or produce synergistic effects. Environmental

benefits in one area can be compared with increased potential impact in other areas, particularly when assessing variations. A single application provides increased transparency, particularly for the public register. A single permit will reduce the number of variations as under the current system some modifications may affect a number of authorisations.

6.3 Issue B.

Due to the lack of clarity in the early consultation documents with regard to the content of an IPPC application, it was agreed that we would use the wording in Council Directive 96/61/EC as guidance. Annex 1 of the directive was assessed for applicability to the site's processes. The majority of the site processes appeared to be described within one or more paragraphs of Annex 1 chapter 4 sections 4.1 and 4.2, however there are some exceptions (these are described below). In the pilot application, no particular structure was given to describing the processes. This would be very different depending on the charging scheme. For example:

If permitting were based on the section of annex 1 in which the processes are described there could possibly be two sections to the application.

1. Organic chemistry
2. Inorganic chemistry

If the permitting were based on each paragraph of chapter 4 and charges related to this then a very different description of the processes would be provided.

The way the installation (in its physical aspects) is defined in relation to the activities that are operated is crucial to the way the application is produced and subsequently the cost to industry. Clear guidance will be required on this issue.

6.4 Issue C.

The site has a list of over 100 processes authorised under IPC. Descriptions of most of these processes were included in the Pilot Application. The majority of the process descriptions were around a paragraph in length and these resulted in around 50 pages of the document. Mass balances and process flow diagrams were not provided. This resulted in the application document being over 300 pages. This raises questions as to whether a document of this size could be effectively assessed. The process descriptions gave a broad outline of the process. If detailed process descriptions, process flow diagrams and mass balances are required the application document may well double in size to around 600 pages. The document then becomes increasingly impossible to assess effectively. However, can BAT be assessed on a process description of a few lines?

Clear guidance will be needed here. The guidance on the detail of process descriptions may include scales based on environmental impact or production output.

6.5 Issue D.

As described above Council Directive 96/61/EC was used as the basis for the application in the absence of draft regulations in the early consultation papers. Article 6 of directive was used as the structure and section headings in the document. The content of each of the applications sections was agreed with the IPC inspector, and it was also agreed to include as many of the site activities as possible.

6.6 Difficulties Raised In The Project.

Some of the IPC applications were written in 1994/5 and no computer copy was available.

a) Plant descriptions/drawings required updating.
b) Information on non-IPC plant/processes was either not in sufficient detail or not available.
c) Lack of guidance on the content of each Article 6 heading.
d) Limited information on non-IPC releases, and their effect on the environment.
e) Land investigation studies were not extensive and were carried out some time ago
f) Dispersion modelling studies only related to key IPC release parameters.

6.7 Areas Which Assisted the Trial Project

a) Accreditation to EMAS and the implementation of an IMS benefited the site in the following ways:
   - Energy efficiency information available for the site.
   - Water consumption and trade effluent discharge data for the site was readily available.
   - Extensive emissions monitoring data available for the IPC processes.
b) The site benefited from a good understanding of IPC due to the range of products and number of variations.
c) Involvement of the site IPC inspector.
d) Regular meetings between the inspector and the site's project team.

6.8 Areas for improvement in the Trial Project

Improvements could have been made to the consultation process if the pilot project had been started much earlier. The directive was used as guidance and thus there was no benefit in waiting for draft regulations.

Improvements could also have been made if all of the pilot projects were run simultaneously and ideas could have been exchanged albeit between sectors.

Benefits would have been gained if draft guidance on how to write an application had been produced in the early stages of the pilot project. This could then have been amended as the project progressed. Help may have been gained if an interpretation would have been provided in the early consultations documents of Article 6 of the directive.

6.9 Technical Issues Raised in the Trial Project

a) Do process descriptions require organising in the relevant section of schedule 1? This may be relevant depending upon what charging scheme is used.

b) There is around 50 pages of process descriptions, with 40 processes on-site omitted. The descriptions were around 5-10 lines each. Is any further information required?

c) Do process block flow diagrams have to be included? If so the document would be hundreds of pages thicker.

d) If the charging scheme does not include tonnage limits, are production projections relevant other than for quantifying releases?

e) Some of the processes fall within more than one section of schedule 1. Is there a "most apt" clause?

f) How are small process envelopes to be regulated?

g) Are physical processes such as distillations, filtrations, and separations going to be regulated if carried out on otherwise authorised plant?

h) The site carries out contract drying processes that have no connection to the schedule 1 processes. Although some of the scheduled activities involved drying, how will this be regulated?

i) Is it a reasonable approach to carry out a land investigation desk study and leave the intrusive study to an improvement timetable?

j) BAT was assessed against current sector guidance in the absence of the BREFS.

k) Will the accreditation to ISO 14001 or EMAS reduce inspection frequency? If it would then this is a good incentive to adopt an EMS thus improving environmental standards across the industry

l) Guidance is required on the definition of significant negative effect, as this could make a great deal of difference when applying for a permit variation if public consultation is required.

m) Operators may benefit from guidance on site restoration if an indicative list of pollutants is given which must be considered during all land investigation prior to permit issue.

n) What makes an installation on the same site? Can a site be divided by a fence or a road?

o) What provisions have been made for the regulation of small process envelopes or pilot plants (the processes which were <250 te/pa production under IPC)?.

6.10 Further Fourth Consultation Issues:

a) Ammonia processes:
Recovery of ammonia is covered by draft PPC Regs., producing ammonia is covered by draft PPC Regs. Why are processes that release ammonia excluded?

b) Processes that can emit hydrogen cyanide but do not use it in the processes are excluded from the draft PPC regulations.

c) Draft PPC Regs Schedule 1 Chapter 4. At the end of section 4.1, a statement catches all other manufacture of organic chemicals. Why is a similar statement excluded at the end of section 4.2 for the manufacture of inorganic chemicals?

d) Under SI472 organic processes not described in chapter 4 were excluded from regulation. Due to the catchall statement at the end of chapter 4.1 in the draft PPC Regs, the PPC Regs are more encompassing than IPC.

e) The manufacture of an organic compound that is an ammonia emitter could be regulated under 4.5m under IPC. The same manufacture under IPPC must be in 4.1 – Organic chemicals. The BREF notes will presumably be significantly different under IPPC for organic and inorganic manufacture. Does it matter that such a process has changed its regulation from inorganic to organic?

g) If we treat our effluent on another site that is geographically remote but still operated by us, does it form part of the installation that generates the effluent?

h) If a product is synthesised on Site A and dried on Site B the drying process is not covered by IPC due to a lack of a suitable clause in SI472. Neither is such drying covered under IPPC again because of a lack of a suitable description in schedule 1. However, synthesis of the same compound on the same site would be covered by IPPC because of the technical connection. This appears to be inconsistent regulation.

7. DETERMINATION PROCEDURE

7.1 The determination procedure utilised selected members of the Central Area team. Paul Stevens assumed an Account Manager role for the purpose of the trial. An implementation plan was prepared which considered the key issues to be looked at during the determination of the application.

7.2 The following actions were taken.

a) Issues related to the administrative side of receiving and validating the application were considered complete. This meant that customer services were not involved in the process. This was considered appropriate due to the lack of guidance on this part of the process and the format of the application.

b) The selection of groups involved in the consultation process was left to the Account Manager. The decision document details reasons why some internal consultees were selected to participate in the trial and others excluded.

c) The guidance used related to the most up to date IPC technical guidance notes, and the IPPC Regulatory Package (Dec 99).

d) The land survey report was given to the Contaminated land section for comment.

e) A copy of the complete report was given to the Environmental Protection team for comment on general issues related to the locality and a detailed assessment of the noise report in the application. The Local Authority had previously employed the EPO for the Area as an Environmental Health Officer and has significant experience in noise measurements.

f) A number of internal meetings took place to discuss the determination process.

8 SITE REPORT

8.1 The PPC regulations define the content of the application for an IPPC permit. One of the requirements of this application is the site report detailing the 'initial' conditions at the site prior to the operation of the installation. The definition of this initial condition is part of a wider regulatory continuum involving;

A. establishing the initial site condition;
B. determining permit conditions to protect the site as well as the wider environment;
C. monitoring compliance with those permit conditions and requiring appropriate remedial action where a contravention of a condition causes pollution; and
D. ensuring that any further necessary restoration is undertaken upon surrender or revocation of the permit.

8.2 The site report must describe the condition of the site of the installation and must in particular identify any substance in, on, or under the land that may constitute a pollution risk.

8.3 The site report serves two main purposes:

A. a point of reference against which deterioration can be measured,
B. provision of useful information on the physical attributes of the site and its vulnerability. The site report may also identify parameters to be monitored throughout the life of the site to ensure that current land quality is maintained.

8.4 The Draft IPPC Report Site Guidance describes the main phases and data collection activities for production of an IPPC site report. Each builds upon the work of the previous phase:

Phase 1a: This should obtain sufficient information on the site, including its environmental setting and its historical, existing or proposed use, to develop a conceptual model for the site and gain a preliminary understanding of its likely risk profile. Main activities include a desk study and site reconnaissance.

Phase 1b: If necessary this should refine the conceptual model and understanding of the risk profile. In respect of pre-existing pollution this will involve verifying whether or not substances believed (as a result of Phase 1a) to be present are in fact present. In respect of risks from further polluting releases it will involve confirming the likelihood of pollutant linkages and providing a preliminary indication of the potential chronic or short-term risks to health or the environment. Main activities: further desk based research; exploratory site investigation.

Phase 2: Where Phase 1b confirms pre-existing pollution, it may be necessary to undertake more detailed, intrusive investigation and data collection to better characterise the contamination present to enable the development and production of 'initial' condition for the site.

(Where completion of Phase 1a indicates that further works are required, the applicant may wish to give consideration to carrying out only one site investigation).

8.5 The framework outlines a methodology to enable the required amount of data to be collected but will be flexible enough to allow the operator to exit from the process

when sufficient information has been collected. This therefore means that it will not always be necessary to complete all phases within the process. At the end of each phase there is a suggested decision sheet to complete which will allow the applicant to consider whether sufficient information has been collected to allow production of the report. The requirement for the amount of investigation each site will require under PPC will be site specific.

8.6 The Operator's Site Report:

Contract Chemicals provided a site report, produced by AIG consultants in support of their draft application under PPC. The report comprised the following sections. I have considered this report in the light of the guidance regarding a phase 1a report and indicated under the headings for each section where information appears to be lacking.

Site Description:

Location, layout, landuse, adjacent landuse.
The AIG report describes the historical and existing uses of the site in general terms. The current site layout is given. Adjacent land-use is described.
A description or plan showing topography should be included.

Environmental Setting: Geology, hydrogeology, landfill, Radon, Prescribed Processes.

The AIG report includes information that the site is in a Zone II groundwater source protection zone. The underlying Sherwood Sandstone is classified as a major aquifer. One licensed abstraction for drinking water is recorded as located approximately 1km from the site. It is noted that groundwater may also be located at very shallow depths within the drift strata in the vicinity of the CCL site. The hydrogeological assessment of the site is limited to a description of the likely nature of the underground strata. Local BGS borehole logs are included, together with borehole logs from previous site investigations at the site.

The hydrological assessment gives the location of Knowsley brook - culverted beneath the site. No reference is made to any surface water outfalls to the culvert from the site and no details are supplied about drainage systems on site.

Site History

Tate and Lyle occupied the site between 1979 and 1983. The report states that detail of the activities carried out by Tate and Lyle is not known.
Some assessment of the likely activities and potential contaminants associated with this use should have been carried out.

In relation to Contract Chemicals' activities on the site to date, the report does not provide enough detail. Information relating to potentially polluting activities and a full assessment of possible contaminants should be included, together with an assessment of where they may have been stored or released on the site. Information on the level of protection afforded by bunding and provision and condition of

hardstanding (over the lifetime of the site) should have been specifically considered in order to focus future site investigations on the site effectively.

Details of the operation of the proposed installation should be included, including a review of the chemical inventory for the installation

Previous ground investigations and remedial works

Two ground investigations have been carried out on the ccl site in recent years. One was commissioned in the light of visual contamination being detected on adjoining land. Extracts of the report are presented in the AIG report. Significant contamination of soils was noted in four trial pits located on the western area of the ccl site. Details of the contaminants are not included in the report extract, but these are said to include aromatic organic chemicals. Conclusions were made that suggested that contaminants had migrated from the ccl site to adjacent land primarily by surface run-off from ccl storage areas. Remediation was carried out at the time that involved removal of contaminated soils. The effect on groundwater quality was not assessed. Target concentrations do not appear to have been set based upon environmental risk and no validation of the remediation appears to have been carried out.

Copies of all past reports available relating to the history of the site should have been included in full and critically appraised in the light of current good practice. It appears that the contamination of adjacent land was caused by run-off from an area of land that had been used for chemical storage for many years. This area was subsequently covered by hardstanding and is potentially still contaminated.

AIG Conclusions and Recommendations.

AIG conclude that the facility is in a low/moderate environmentally sensitive area with respect to adjacent land-use being located in an industrial area with the nearest residential properties being some 800m south-east. This assessment does not take account of the sensitivity of the water environment, with a culverted stream present on site and a major aquifer used for drinking water supply and industrial supply.

Recommendations are made that a 'brief, yet thorough, ground investigation is carried out over the entire site' in order to identify soil contamination, groundwater characteristics and quality and physical soil properties. AIG also recommend that any subsequent interpretative site investigation report should consider appropriate hazard-pathway-target assessments of any contaminants found in either soil or groundwater with regard to the type and nature of contaminants and soil types identified.

The AIG report is essentially a factual report, with little interpretation of information or consideration of potential pollutant linkages or environmental risk. The report was never intended to describe the current condition of the site and further work has been recommended. The report does not satisfy the requirements of a Part 1a report, but provides much of the baseline information which would have to be included in such a report.

The assessment of environmental risk for this site, in terms of the water environment could not be considered to be low/moderate given the current level of knowledge of

the site ie the broad view of site use presented, the known history of contamination and potentially high environmental vulnerability.

8.7 If presented with this report in support of an IPPC application, further work (Phase 1b/2) would have to be requested. This would include further desk based research, intrusive investigations, and proposal of specific baseline conditions at the site against which environmental deterioration could be assessed.

Specific issues which would have to be included would be;

a) Consideration of the relevant characteristics of possible contaminants eg. mobility, volatility, solubility, breakdown products.

b) Identification of potential source-pathway-receptor linkages for the site and development of a conceptual model.

c) Rationale for sampling strategy.

d) Main limitations/constraints on the investigation findings/baseline proposals (eg. relating to data quantity and quality).

e) Health and safety and environmental protection measures needed to permit safe investigation of the site.

f) Consideration should be given to the way in which the future condition of the site will be compared with the baseline condition proposed. This may include monitoring throughout the lifetime of the IPPC permit and statistical analyses to determine whether any deterioration is significant.

8.8 General Issues

Time spent:

Approximately one working day. This site is relatively straightforward in terms of previous history, and the level of complexity of the report and data supplied. For a site with a complex site history and where a great deal of information relating to site investigation is presented, the time requirements could be much higher. For this draft application, regional groundwater staff have not been consulted. They would have to be consulted for 'real' applications.

A site visit would normally be carried out during assessment of the site report.

As a rough guide, for duties under Part IIA, the forthcoming contaminated land regulations, a consultation period of two weeks has been estimated for site reports, with a further week for the collation of the responses from all consultees.

Site boundary/Installation boundary:

It is unclear from the draft guidance whether the site report is to be carried out in relation to the installation or to the whole site.

The report itself:

The report should ideally be a 'stand-alone' document. This will aid interpretation, but will also be essential, as it is the description of the baseline conditions at the site.

Interrelationship with IPC/Part IIA:

The guidance highlights the possibility that the site report submitted in a PPC application may lead to local authorities to identify land as contaminated under Part IIA. If an IPC authorisation exists for such a site at the time of the IPPC application, and the contamination was caused by activities carried out under the authorisation, remediation may be required under the IPC regime.

9. PERMIT

9.1 The permit produced as part of the trial was based on the version provided with the IPPC regulatory package (December 99). Issues raised while drafting the permit are detailed below using the headings taken from the permit.

9.2 General

As mentioned earlier the site is spilt into 4 installations due to the operational layout of the plant. It has been assumed that the operator has agreed to the site being regulated by one permit covering the four installations.

There was no clear location within the permit introduction to expand on this "arrangement". Also how does the legal framework take account of a single permit for multiple installations?

Does each installation have its own unique identifier and if so is there a requirement for four unique permit identifiers? If so how can this be adequately described?

Do the terms "installation" and "permit" have to be redefined for multi installation permits?

For the trial permit it was assumed that a single permit would be issued but there would be four installations separately defined but not numbered.

Where the permit refers to "the installation" then all four are considered.

9.3 Introduction

A. The introduction was used to describe the 4 installations covered by the permit as well as the associated activities common to all installations such as the boiler plant and dryers. For each installation the key products being manufactured were highlighted based on the mass throughput and the potential environmental impact of the activity.

For a site that manufactures such a wide range of products it was considered necessary to focus attention on the activities of greater risk but balanced by the actual mass of product manufactured.

It is likely that this introductory note will provide much less detailed information on the activity than the previous seven IPC authorisations did.

B. The introduction provides for a table that shows other permits relating to this installation. From the draft this would appear to be useful for those sites that have multiple operators on a single site.

The questions raised above over the multiple installations single permit could be addressed in this table.

C. Although the status log is similar to those used under IPC it includes a reference to "the response to request for information" previously not used under the IPC status log.

If there was a significant level of correspondence between the operator and the Agency this section could become unworkable.

9.4 Part 1. The permitted installation

A. **Table 1.1** was used to broadly define the installations in terms of the buildings names currently used by the operator. The activity description used related to the relevant Chapter and then the Section as defined in Schedule 1 of the Regulations. This resulted in two activities (producing organic chemicals chapter 4.1 Part A(1)(a) and producing inorganic chemicals Chapter 4.2 Part A(1)(a)) as well as the associated activity of boiler operation (Chapter 1.1 Part B (a)).

This table could be used to exclude certain activities from an installation. E.g. not allowed to manufacture inorganic chemicals in the Diol installation. Clearly, however, if only one inorganic product (thus activity) could be manufactured using the equipment in the diol installation then the exclusion could not apply.

The table was limited only to those activities listed in schedule 1. The table did not include direct reference to discharges to sewer etc. as described in the Regulatory Package.

The result is a very broad description of the installation, which is not what was intended for this table. An alternative approach may include separately listing each installation but this will mean significant repetition in terms of the associated activities. Another method may be to use the section sub headings i.e 4.1 Part A (1) (a) then (b) etc. This would have to potential for limiting certain activities.

B. **Table 1.2.** This table and associated guidance aimed at defining the techniques used within the installation to ensure that if "anything" changed in the application it would not require a variation to the authorisation.

This proved very difficult to apply in practice. The application is not structured as a means of referring to discrete packages of information. The example given was "changes to operator's procedures". Operating procedures are changed frequently for multi functional sites and requesting a variation for each of these would be unworkable.

To include documents like the Environmental Management System or abatement equipment operating instruction would also be unworkable as these are working documents. For example if the roles and responsibilities change within the EMS will that require a variation to the authorisation because the EMS was named in table 1.2? Also is a failure in the EMS system then considered an offence because of its mention?

Clear guidance is needed if this table is to work in practice. That guidance would have to be given to the operator prior to making the application and the application formed to take account of it.

It is also not clear if this table is repeating information used in the status log e.g. Sc4 Part 1 Notices. It would only take a small number of changes to make this table unwieldy.

C. Condition 1.6.3. This was clearly written for a waste management installation and as such would need to be altered.

The following are potential alternative conditions for the chemicals sector;

a) New product manufacture,
b) Change in formulation of an existing product,
c) Significant change in the scale of manufacture (i.e. a trial product going to full production).
d) Changes in plant such as abatement plant or size of reactor.
e) Complaints from the public on environmental issues.

9.5 Part 2 Sector specific conditions

This has been deliberately excluded pending availability of the guidance. However some of the conditions mentioned directly above are likely to be included within the sector specific conditions.

9.6 Part 3 Additional conditions

No additional conditions were included here as it was considered the site was an existing installation and therefore improvement conditions would be applied.

9.7 Part 4 Emissions from the Permitted installation

A. **Table 4.1.1** This table was considered straight forward with the inclusion of all the release points from all the installations.
Note this also included the vents from the laboratories.

B. **Table 4.2** The example table of emission limits into air combined the release point, the parameter, the frequency of monitoring and the minimal interval between monitoring.

For a small number of release points this format may be workable but for 16 parameters and 13 release points a single table is not viable. The trial permit split the release tables into their relative installations and then included an additional table for the associated activities. This approach kept with the general idea of the template.

In some circumstances alternatives to the proposed frequency and style of monitoring may be needed. This will hopefully be clarified in the sector guidance but the following points should be noted.

a) *The activities in each of the installations are based on batch production.*

b) *Continuous Emissions monitoring is likely to be recommended but this has to be related to an appropriate standard i.e. that used for VOCs (volatile organic compounds) where the continuous emission limit is related to a mass per hour release.*

c) *This site uses large LEV systems for reactor venting, loading and unloading as well as walk-way extractions etc. The larger the LEV the larger the volume flow through the scrubber and the less significant the emission concentration. The worst case scenario is that a large LEV scrubber will release a large mass of pollutant but still be within the emission limit due to the scale of the LEV throughput. The new product reviews would need to show the optimal design of each reactor line to minimise releases to the final LEV scrubber.*

d) *An additional table of methods of monitoring may be useful if it included details of calibration checks and maintenance frequencies.*

e) *If a release point can be proven to be insignificant in terms of releases can it be excluded from the tables and captured by the new "residual BATNEEC" clause?*

f) *There is limited (no) guidance on annual release limits?*

C **4.2 Emissions to sewer**

Under IPC there was a reluctance to specify conditions that repeated those applied by the sewer undertaker if those conditions were considered reasonable and in line with the authorisation.

This has been repeated within the trial permit. However the trial permit was adapted to ensure that any substance prescribed for water is only released at a level no greater than background.

Additional guidance is needed prior to setting any annual release limits.

D. **4.5 Noise**

The conditions were considered inadequate to ensure compliance.

The details for method of assessment were missing. It is possible that separate Agency guidelines will provide the required standard for assessment.

E. **4.5.4 Lagging**

The permit specifies a two-week period for remedial action for lagging.

Considering the likely scale of many IPPC installations a two-week period for undertaking an effective remediation seems very short.

9.8 Part 9. Improvement programme

The improvement programme is only an initial estimate of potential improvement conditions. It is very likely that the operator already operates to BATNEEC and would have read the appropriate guidance prior to application, most of the improvement conditions would not have been included. Those listed below are the conditions that may cause some concern to the company due to new work required if information is not already available.

Reference	Requirement	Comments
9.1.1	Additional details on the new product review methodology. The operator will have to show or consider alternative raw materials and justify the use of the current ones.	The new product review is the key to answering many questions relating to BAT. This review will have to be revisited for over 400 raw materials, alternatives and commercial confidentiality issues. The storage quantities will also be needed. **A significant impact.**
9.1.2	The operator is asked to provide a water consumption figure on a product basis and consider alternative sources or recycling.	Refer to new product review. This will require additional work to "translate" the known water usage figures to an activity consumption. Hopefully the sector guidance will clarify this.
9.1.3	The operator will need to supply the mass production figures for all products to enable a full assessment to be completed. The operator will need to supply details on the safeguards to avoid overloading scrubbing systems.	This information would probably be supplied before an improvement condition was necessary. A significant issue is the large number of products that are awaiting an order or due to be trailed. Some means of estimating this information would be needed.
9.1.4	The operator will need to supply additional information on the justification for the abatement plant chosen and its means of operation to prove BAT.	The sector guidance will provide additional information here for the confirmation of BAT. The justification for the equipment is not considered onerous. However the Sectoral guidance may highlight issues such as minimum staffing levels, use of glassware, continuous pH monitoring of scrubbers, computer control vs manual control, alarm levels and actions, emergency venting arrangements etc.
9.1.5	Dispersion modelling required.	The site has undergone significant changes over a relatively short period. The dispersion modelling undertaken by the company needs to reflect those changes.

9.1.6	The company will establish an energy management system in line with the guidelines provided by the Agency.	Again the key is the adaptation of sector specific targets. Due to the significant number of activities the appropriate means of reporting is needed.
9.1.7	The environmental impact of accidents needs to be established in more detail.	Although the CIMAH report was available this did not provide a sufficient evaluation of the environmental impact. This improvement condition will require additional work.
9.1.8	Additional information needed on the annual noise survey work.	This information is likely to be available. It would then be compared against the EA guidance to check compliance.
9.1.9	Additional information needed on the adequacy of monitoring equipment.	If equipment is non MCERT a significant quantity of information and proof will be required.
9.1.10	De-commissioning report required.	This report will be based on the "updated" site report to establish the current state of the land to the satisfaction of the EA.

10 CONCLUSIONS

10.1 The main aim for this trial was to consider the significant impact of the detail of the PPC Regulations on an application from the Chemical sector. The trial produced an application, a permit, and this end of trial report.

10.2 The following are considered the most significant issues

A. The definition of "the installation" is still open for interpretation for a multi activity site such as Contract Chemicals.

B. For a site with multiple installations but the same operator "agreement" is needed to issue a single permit. If the charging scheme relates to installations then this agreement may be disputed.

C. The nature of multiple products manufactured by batch processing requires clear interpretation in all guidance.

D. IPPC will increase the number of activities regulated by the Environment Agency.

E. The impact of reviewing alternative raw materials for processes could lead to a significant commercial confidentiality issue.

F. The determination procedure relied on the Account Manager to decide on the appropriate level of consultation. Guidance is needed to ensure that the correct sections are consulted without over loading the system.

G. The decision document proved to be very cumbersome and it became clear that there may need to be two documents; one for public consumption and another to ensure the details of decision made are on file for future reference.

H. The site report was not considered adequate even though the installation was essentially built on a green field.

I. The installation boundary may not be the same as the site boundary.

J. More guidance is needed when completing table 1.1 to avoid confusion.

K. Table 1.2 of the permit is a significant concern as it tries to categorise sections of the application that can be altered without a variation being required. This may prove very difficult to put into practice.

L. This site was considered a "good" IPC site and yet potentially 10 improvement conditions were identified. This is likely to be addressed better when further guidance is available

M. A significant period of time and amount of resource will be needed to prepare a new application. This will be reduced for sites that have EMS systems in place but will still be appreciable.

APPENDIX 1

DEFINITION OF INSTALLATION.

A1 The site is split physically into four production facilities, drying plant, storage facilities and boiler plant. The production facilities are called:

The Bonner building,
The TDC building,
The Diol plant,
The Surfactant Hall.

A2 Most of the production facilities consist of raw material handling facilities, a number of reactors, a selection of abatement equipment such as a dedicated absorber for the reactor then venting to scrubbing systems prior to discharge to atmosphere.

A3 Typically both inorganic and organic products can be manufactured on the plant within the buildings. The manufacture of these products are clearly activities as described under schedule 1 of the PPC regulations.

A4 The installation is described as "a stationary technical unit where one or more activities listed in Annex 1 are carried out."

A5 The Bonner building is used to manufacture bromine based compounds on one reactor and acrylate based products on another reactor. Each of these reactor production lines could be described as an installation as it consists of:

Plant or Unit where an activity is carried out,
The unit is stationary,
The unit is a technical unit.

The unit definition is valid as each reactor line is functionally self contained due to the multi functional nature of the batch production. This is equally valid for the manufacture of the bromine product on one reactor and the acrylate products on the other.

A5 However bromine and acrylate reactors both vent a common LEV scrubbing system called the North Enviro scrubber. This is clearly a technical connection as each of the reactor lines are no longer functionally self contained as the LEV scrubber is an essential component of the installation. Therefore the reactors form components of one stationary technical unit.

A6 A similar situation to A5 can be applied to all the other buildings thus producing 4 installations.

A7 The TDC building has two scrubbing units which can be used independently or in series depending on the activity, prior to release to atmosphere. This raises the potential for two "units" within the building. However due to the large number of products that can be manufactured on the reactors feeding this combination of scrubbers at least one activity will use both scrubber and therefore will create the required technical connection for the building. When not using this technical connection the plant will still be subject to the conditions of the permit.

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 6

SEPTEMBER 1999

Onyx Hampshire Ltd
Chineham
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The Compiler wishes to thank all those – both within and outside Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compiler: **Phil Heaton**
PIR/ RSR Team Leader

THAMES IPPC PILOT TRIAL
NON-TECHNICAL SUMMARY

1. SCOPE OF TRIAL

A plan for the trial was written by the account manager (Phil Heaton) on 16 June (Appendix 1) following a meeting in May attended by Doug Munkman (a member of the national IPPC group with responsibility for four of the eight national trials), the trade association Energy From Waste, plus potential applicants (Grundons, Onyx) to discuss the trial.

In summary a virtual team was set up to run from 5th July to 1st September. Five outputs of the trial were planned (dummy application, permit, process handbook, decision document, summary report) and a series of one to one meetings between team members and the Account Manager plus a team meeting was envisaged. The virtual team included representation from a wide range of area based teams in the Agency (waste licensing, scientific support, tactical planning, water consenting, process industry regulation (PIR), environment protection, customer services, conservation, water resources). In addition the virtual team had representation from regional based teams (legal, economist, waste, PIR, public access, public relations).

Early on in the trial it became apparent that planning liaison had a role and were invited to join the trial. The wide scope of the team was deliberate to ensure aspects were not missed and raise involvement of these teams in the implementation of IPPC by setting each team general questions about how they saw their roles. In reality the imposition of extra duties needed to be managed on existing workloads and to this end the plan was copied to all team members' line management.

RECOMMENDATION 1: Consider how work-loads will be managed when received from outside conventional function structure.

Prior to the setting up of the trial an Account (or project) Manager was selected to lead on all contact with the applicant. In reality new applicants will be contacting the Agency and seeking a point of contact who has not been appointed.

RECOMMENDATION 2: Consider how the Agency will deal with fresh applicants in pre-application discussions where no Account Manager has been set up. In addition consider how to facilitate transfer when the Account Manager is not the previous primary contact with site.

The scope of the project was to keep the trial below a budget of 30 man days. This was done using the PIR timesheet system for the majority of the tasks and has provided experience on tracking costs on individual applications. However for the majority of team members this cannot apparently be done under the timesheet system of Environmental Protection, so estimates were made.

RECOMMENDATION 3: Consider if it is necessary to track time spent on determining applications and if so how it might be facilitated across all functions.

The main time consumers during the trial were

Assistance to the applicant in preparation of the application =3 days
Drafting the licence =4.5 days
Drafting the decision document =3.5 days
Organisation of the trial (including questions / meetings) =5 days
Responses to questions set (estimated at 11 persons at 3 hours each) =4.5 days
Attendance at team meeting (estimated at 11 persons at 3 hours each) =4.5 days

This gives a total expenditure of 25 days and allows 5 days for the completion of this final report. However since this is an application subject to the Selected Licence Application Procedure it is expected that at least another 10 days will be needed to progress the decision document to completion. Under the Environmental Protection Act 1990 a new incinerator would be three components or an allowance of 3*3.6 = 10.8 days. Since the trial was carried out with the application being prepared in parallel to the licence the new sections beyond IPC have not been passed around the virtual team eg contaminated land section passed to scientific support.

RECOMMENDATION. 4: Consider if the full dummy application should be passed on further and if so to who.

It should be noted that the sections on noise have been passed to two different local authorities for comments.

Thus at this stage it is difficult to estimate extra time due to the extra factors brought into determination of permits by the PPC Act but it is relevant that the application is approximately 30% longer. Not all of this is pro-rata to determination, but since it is intended that it is not necessarily a single person who determines all parts of the application, there is an extra factor of communicating information to the account manager.

RECOMMENDATION 5: Consider how an account manager can circulate applications and collate internal responses most efficiently.

RECOMMENDATION 6: Consider if it is necessary to develop a more accurate costing of time taken for determination at this stage and if so how it might be done.

2. TEAMS AFFECTED BY PPC LEGISLATION

Since the Fourth Consultation Paper on the Implementation of the IPPC Directive includes the draft regulations detailing processes involved in the legislation a better understanding of the types of technical issues involved is available. There would appear to be three main categories of installations for the Agency to deal with.

(a) Processes currently under EPA90 Part A. Here there is a certain amount of familiarity with processes previously caught under EPA90 but even for these there are new factors e.g. noise, contamination. The Thames Region trial fits this category while some of the other national trials have piloted new processes such as food and farming.

(b) New installations such as food and farming not currently subject to an integrated permit.

(c) Part A2 installations regulated by local authorities.

RECOMMENDATION 7: Consider how the lessons learnt from other regional trials can be obtained and fed into the Thames programme most effectively, particularly with respect to training.

Having categorised the Thames pilot study on municipal incineration where all issues would have fallen under PIR under EPA90, the "surprises" in the determination process related to waste minimisation and energy efficiency. In the Technical Summary this is expanded upon. A relevant aspect to mention at this point is that there are real issues for three regional teams: legal, waste policy and economics. Thanks to excellent co-operation by Frazer Smith who involved economists at national level, some very useful technical comments were made on the guidance. Similarly lawyers and waste policy are likely in at least the short term to be faced with extra work in helping Account Managers in the early years of this legislation.

RECOMMENDATION 8: Consider how the support of region (particularly lawyers, economists and waste) can be (a) made available, and (b) used efficiently. Also consider if the functional location of the Account Manager affects this i.e. how robust are the working relationships between region and area.

It was noticeable that for example conservation were able to take an active role in the trial by having an area presence, and an area based delivery of lawyers and economists would appear advantageous. One simple outcome from the trial is that there are a number of teams that can be crossed off as not involved with the new legislation: namely: water resources, flood defence, public relations and fisheries/navigation. Obviously this is not clear cut if the IPPC installation is sited on a river, possibly with a jetty and a significant water discharge, but these functions should be involved in the currently separate planning process or contacted by the team responsible for water consents. It would be helpful if the point of contact for water discharges could be decided at an early stage to assist training since local authorities are anxious to understand the effect of Agency's role on Part A2

installations. Unfortunately the trial has done little to explore this area but it would appear that there are three potential teams capable of carrying out this work (Regional water quality/consenting, tactical planning and Area Water Consenting).

RECOMMENDATION 9: Consider the most appropriate factors in determining point of contact for Part A2 installations and where they might be found.

In the virtual team set up for the trial each team member was assigned a primary or secondary status as to their envisaged involvement for this mock incinerator application. This is repeated below with the addition of planning liaison at the secondary level.

PPC Virtual Team

PRIMARY	SECONDARY
Waste Licensing	Customer Services
Scientific Support	Public Access
Tactical Planning	Regional PIR
Water Consenting	Regional Waste
PIR/RSR	Regional Water Quality
Env Protection	Planning Liaison
Conservation	
Economist	
Legal	

RECOMMENDATION 10: Consider if the above list is adequate as a template for formulating virtual teams and if primary/secondary ranking is appropriate.

As stated above the Thames pilot was largely focussed on a PIR type process and the only substantial referral was to Legal, Economist and Waste Policy. It is relevant to remember the role of the Process Handbook in identifying who should be involved. The Customer Services Manager is suggested by the Handbook as responsible for maintaining public registers, which is not the case in Thames Region. He or she is also tasked with receiving and responding to all enquiries from the public and other organisations, but depending on the outcome of Recommendation 2, Thames may not follow this route. The Handbook identifies the role of planning liaison covering not only planning applications but also development plans, LEAPS, REAPS, local and regional plans. The Handbook suggests the responsibility for providing information to the public and third parties lies with PR officers and Regional Education officers, neither of which appear on the template above. This duty includes the important duty of reporting to Europe. The Handbook does not suggest responsibility for the regulation of a site. The comments of the Thames IPPC group have already been passed to John Dalton (memo by John Galvin dated 16 July 1999).

RECOMMENDATION 11: Consider after discussion with John Dalton, particularly with respect to timescale, if the roles identified in the Handbook outside of regulation are appropriate and can be allocated. Similarly after discussion with the National IPPC team can any greater definition of regulatory roles be obtained?

Moving on to the specific teams mentioned in the template for virtual teams, the questions and answers set during the trial were intended to give some feel for their role and Appendix 2 gives all the responses received. The summary of this with respect to role (as opposed to technical comments given in Part 2 of this report) is given here:

Waste Licensing:
Greater liaison needed with planners to ensure same standards.

Customer Services:
Agree with Handbook except they should not handle technical enquiries, only general.

Scientific Support:
Groundwater vulnerability role.
Codes of practice for CL could be helpful to PPC.

Public Access:
Like customer services can offer a public register service.

Tactical Planning:
Able to forward plan IPPC.
Able to deliver water quality planning service (for local authority A2 installations).
Able to play a role in planning applications and advise on waste minimisation, pollution prevention.

Regional PIR:
Similar role to IPC with referral where national issues.

Water Consenting:
To be clarified.

Regional Waste:
Life cycle analysis not yet available in Thames.
Similar role to current with referrals.

PIR/RSR:
Potentially able to deal with waste processes also.

Regional Water Quality:
Able to advise on cross legislation issues.

Environmental Protection:
Able to take role in identifying which currently licensed facilities will be caught under PPC.
Able to regulate after permit issue.

Planning Liaison:
Able to give point of contact into planning process of local authority.
Identifies need for consistency checking to planning application.

Conservation:
Able to assist with environmental impact.

Economist:
Able to advise on energy efficiency and BAT.

Legal:
Able to assist with legal matters.

RECOMMENDATION 12: Consider whether these roles match the need and clarify where there is duplication of roles e.g. public registers, public enquiries, waste licensing,

regulation after permit issue. DELIVERY OF A SERVICE USING THE VIRTUAL TEAM STRUCTURE

John Waxman of Tactical planning has addressed this in his submission under Appendix 2. He has started by exploring how the process could be managed and suggested the following:

Appointment of an "IPPC Administrator" within Environmental Planning to plan and manage the general process. Their role might be:

i) To consider each new IPPC application and assess the expertise/resources required to process the application successfully.
ii) Check planning applications to identify potential IPPC installations.
iii) Negotiate with the relevant team leaders to secure the services of the staff needed.
iv) Arrange for adequate cover to be provided – if necessary – in teams which have donated staff to the virtual team (see Recommendation 1).
v) Ensure that key specialists are not over-burdened, or over-utilised to the detriment of their other work, and that the opportunity to participate in the virtual team is properly rotated amongst staff.
vi) Identify gaps in the Area's expertise and arrange suitable training/recruitment as necessary.
vii) Progress chase, and trouble-shoot.
viii) Report progress, OPMs and "issues" to senior management.
ix) Act as EPI/EPr's recognised point of contact for general IPPC matters.
x) Communicate new IPPC information and guidance to Area staff.
xi) Liase with other key groups within the Area such as customer services.
xii) Attend virtual team meetings as required to act as an independent arbitrator.
xiii) Ensure that health and safety aspects are covered.
xiv) Refine the process, and look for opportunities to operate more efficiently.
xv) Identify transitioning installations (from IPC/WML to IPPC).

Extra benefits of having an "IPPC Administrator" are to take the pressure off Account Managers and, by having a forward look, to assess the resource implication in advance. The position could also be rotated.

RECOMMENDATION 13: Consider if the appointment of a IPPC Administrator could aid the implementation of IPPC and if so whether the position should be "new duties" funded or an existing post.

It is recognised that in the memo of 4 August 1999 by Paul Hudson some training needs are identified and an identification of staff required for delivering PPC for the first 18 months has been attempted. This is across a narrower team base than the template virtual team above. The IPPC Administrator could arbitrate over priorities and training and therefore if Recommendation 13 leads to accepting this role, then a "champion" of training could be appointed.

The IPPC application in the Thames pilot study took approximately 9 months to complete since 70% of it was submitted over a period of 7 months with the other

30% produced for the planning application and switched into the IPPC application. Therefore operators will be approaching the Environment Agency about a year ahead of required submission dates.

RECOMMENDATION 14: Consider if the IPPC Training is adequate for a virtual team to be established to deal with pre-application discussions and on what timescale is the training required.

During the Thames trial due to the clearly "PIR" nature of application and a lack of time available by other teams to look at the application, there was little inter-function "referral". Hence the virtual team meeting was taken as an opportunity for bringing staff up to speed on new guidance rather than a technical discussion of the application except for the meaning of energy efficiency. However it is likely that virtual team meetings could be more useful both pre- and post-application if the Account Manager requires them. Each Account Manager is likely to have his or her own style for managing and the IPPC Administrator could promote uniformity where necessary.

During the Thames trial the Account Manager essentially only used two staff significantly (Colin Chiverton and himself) allowing meetings with the applicant to be attended by the whole virtual team and making the process easier to manage. This worked well as the two people are used to each other and consequently all targets were met. Larger teams for, say, a farming application will have members not used to each other nor the technical content, and the Account Manager will need to spend more time on communicating and facilitating the determination rather than technically leading. Paul Hudson's memo of 4th August details some of the job description and personal competencies of the Account Manager.

The variable complexity of each application makes it difficult to make generalisations particularly as there is an aspect of self-evaluation but the roles and competencies seem sensible. It is noted that in this memo of 4th August that it is undecided if the Account Manager also has responsibility for certain planning applications.

RECOMMENDATION 15: Finalise the job description of the Account Manager, Permit Team Staff and Customer Services Centre Staff.

During the Thames trial there was no sending of documents to the public register, logging of application details onto computer systems (eg IPCIS), sending copies to consultees, serving notices and many more activities that will be necessary. It was also found that there were no detailed procedures available and the trial began to collate QMS procedures needed for incorporation into a "Desktop Manual". This would be important in identifying responsibilities and activities thoroughly.

RECOMMENDATION 16: Consider after discussion with John Dalton if a Desktop Manual should be produced along the lines of the PIR QMS procedures, and if so when and how will it be produced.

CONCLUSIONS AND RECOMMENDATIONS

The Thames pilot trial was achieved in two months to a budget of 30 man days and delivered a draft application, draft licence and decision document. It identified that the Process Handbook was unclear with respect to responsibilities, roles and detailed procedures. A simple attempt was made to create a "desktop manual" suitable for defining actual procedures but further work on this awaits national approval. A summary report has been written for the Thames IPPC Group with sixteen separate non-technical recommendations. Consideration of these ahead of the implementation of the legislation should help the Region successfully undertake its new duties if adequate resource is in place.

P Heaton
16 September 1999

ENVIRONMENT AGENCY

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 7

MARCH 2000

Wessex Water plc
Avonmouth Sewage Treatment Works
Kingswestern Lane
Avonmouth
Bristol

The Compilers wish to thank all those – both within and outside Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compiler: **Ian Nutter**
Water Quality consenting Team Leader

IPPC PERMIT TRIAL
AVONMOUTH SEWAGE TREATMENT WORKS

CONTENTS

1.0 INTRODUCTION

Avonmouth sewage treatment works is situated to the west of Bristol. This installation has been included in the series of IPPC trials which are currently taking place primarily because tankered waste is imported to the site for treatment. This activity is covered by a waste licence issued to UK Waste which is a separate company to Wessex Water plc, the operators of the sewage works.

2.0 PROGRAMME.

The initial meeting with Wessex Water plc was held in early August 1999. Concerns were expressed that much of the information required for the application was not readily available, particularly in relation to power generation and contaminated land issues. Confidentiality of internal Company reports relating to contingency planning and crisis management was also raised as a concern.

The original timescale proposed for the submission of the dummy IPPC application was the end of September with determination completed by the end of October. However, it was accepted that this timescale was optimistic considering the amount of information that needed to be procured for the trial. The full application was not finally submitted until 7 February.

In order to provide an input to the National Project Group to meet deadlines for response to the DETR, consideration of the application and supporting information has not been as detailed as originally intended. This report summaries the main issues identified by the Area Project team

3.0 BACKGROUND.

Avonmouth sewage treatment works receives domestic sewage and industrial trade effluent from the sewerage system which serves the Greater Bristol area. It also receives liquid waste from a waste handling facility on site operated by UK Waste, a company independent of Wessex Water.

The purpose of the sewage treatment works is to produce a sewage effluent which complies with the conditions of a discharge consent issued under the Water Resources Act. This consent currently authorises a daily discharge of 160,000 cubic metres of sewage effluent to the Severn estuary.

The incoming crude sewage receives preliminary treatment (screening) and primary sedimentation prior to discharge to the estuary. Improvements to treatment to meet the requirements of the Urban Wastewater Treatment directive are currently under way. This involves the provision of secondary treatment and is due for completion by 2003.

Other products of treatment are:-

1. Sewage Sludge: liquid sludge from the sedimentation tanks is processed on site in a thermal drier. The dried sludge is marketed as Biogran and is used commercially for agricultural benefit. Some sludge is used for land restoration/ amenity purposes.

2. Industrial supply: approximately 7% of the incoming crude sewage is treated in an Activated Sludge plant to provide a reasonably good quality effluent as a source of cooling water for local industries. Without this source the industries concerned would need to use potable water for cooling which is clearly a poor use of a valuable resource.

3. Production of electricity as a by-product of sludge treatment. Approximately 90% of the methane produced in the primary digesters is used to generate electricity. In excess of 15000 MWhrs/year of electricity are exported to the National Grid as a consequence of this process.

4. Screenings and grit from preliminary treatment which is transported off-site for disposal at a landfill.

Current Environment Agency Regulation of activities taking place in the installation is by:

- A consent issued under the Water Resources Act authorising a discharge of sewage effluent to the Severn estuary.

- A Waste Licence issued to UK Waste relating to the disposal of tankered waste at the site. Liquid waste is discharged to the work's inlet for treatment.

- Audit of compliance with the Sludge Use in Agriculture Regulations.

4. PROJECT ISSUES

4.1 Application details:

Although Wessex Water have put a lot of time into providing information for the application (in excess of 150 hours), it is the view of the team that the application has not been duly made. Insufficient information has been supplied to draft permit conditions - or for that matter improvement schedules - in particular for air emissions and power generation.

Two points:

1. Limited information is available for some of the activities on site. The Company will need to commit resources and expenditure into obtaining information to satisfy Environment Agency requirements regarding the application.

2. Some of the early guidance on IPPC tended to be opaque. Clear statements need to be made about our requirements from applicants.

4.2 Site Report:

Again paucity of information is the main problem. The Company will be required to do an extensive survey of the site to provide the information that is required on land quality. There are no emissions to land from activities taking place on the site. The Company are never likely to leave the site. The sewage works is next door to a smelting Company and there is the possibility that air emissions from their stacks are "grounding" on the site, thereby affecting land quality.

4.3 Definition of Installation:

This is an issue which continues to be debated. If the Waste Licensing facility is the only reason for the installation to come under IPPC, then there is the possibility that Wessex Water will decide to stop allowing waste disposal at some, if not all, of their sewage works sites. Alternative disposal routes may need to be sought possibly resulting in a higher risk of harm to the environment.

4.4 Operator responsibility:

It is not clear how enforcement of the permits would be undertaken. If each operator has a separate permit as has been suggested then proving culpability in some circumstances could be difficult.

4.5 Fit and proper person:

The application of the concept of "fit and proper person" may need to be applied to Wessex Water in addition to UK Waste - both Companies are involved in handling waste. If so, Wessex Water's conviction record would also need to be taken into account.

4.6 Confidentiality:

Contingency and crisis management plans give details that the Company would not wish to pass into the public domain ie locations of vulnerable plant and telephone numbers for call-out staff.

4.7 Waste reception:

The acceptance criteria for tankered waste may need revision when permits are applied to provide more effective control for IPPC.

4.8 Permit conditions:

Generally , the conditions that have been included in the draft permit as proposed in the "IPPC Regulatory Package" to cover waste issues are not as comprehensive as those currently available in the Waste Licensing library. The Waste Management licence for the reception facility at the works contains a number of conditions which we would wish to incorporate into the permit and it is difficult to see how this would fit into the proposed format.

The same applies to emissions to water. The consent which will be applied when the improvements for the Urban Wastewater treatment directive have been completed contains 48 conditions in three schedules, and most of these would need to be incorporated into the IPPC permit. The proposed document would need to be modified considerably to include all of the conditions that are specified in this consent.

4.9 Energy reduction:

Energy consumption at the installation is likely to increase in the short term as additional treatment processes came on-line to satisfy the requirements of the Urban Waste Water Treatment Directive.

5. OPERATOR'S VIEW.

These are a summary of the views of Wessex Water. No comments have been received from UK Waste.

1. The idea of having a single permit to cover all regulatory aspects of activities undertaken on site is appealing (if this is the case). However, the Company have queried why it is necessary to extend regulation to what they consider to be secondary issues such as energy usage, ground and soil contamination, management systems and material procurement. The Company can see no justification for inclusion of these issues particularly as the reason for the application of IPPC to this site is the existence of a Waste reception facility operated by a separate Company.

2. At the onset of the trial it was apparent that there was only limited information on a number of topics relating to the installation. The Company are keen to point out that the acquisition of further information/data for the application particularly in relation to land quality will be costly.

3. On a positive note, the Company are providing feedback to the Water Industry on the trial through its link with Water UK.

6. RECOMMENDATIONS:

- The reasonability of data requirements for what Wessex Water refer to as secondary issues should be reviewed with particular reference to the Environment Agency's responsibilities regarding costs and benefits.

- The requirements for information relating to land quality need to be clearly stated now. A number of companies will need to be in a position to supply information on the condition of the installation (site report) in the very near future as the first tranche of IPPC applications are made. At present industry does not appear to be aware of what is required from them and planning for this work will need to commence shortly.

- Revision of the standard permit may be required to enable comprehensive conditions to be specified for the emissions concerned.

ENVIRONMENT AGENCY

IPPC PERMITTING TRIALS

END OF TRIAL REPORT

TRIAL NUMBER 8

FEBRUARY 2000

Aylesford newsprint Ltd
Bellingham Way
Aylesford
Kent

The Compilers wish to thank all those – both within and outside Agency – who have contributed to the running of this trial. Without their efforts the trial could not have been brought to a successful conclusion.

Report Compiler: **David Johnson**
PIR/ RSR Officer

THE IPPC PERMITTING TRIAL AT AYLESFORD NEWSPRINT LTD

1. DEFINING THE INSTALLATION

Aylesford Newsprint Ltd (ANL) manufactures newsprint from recycled newsprint and magazines. The site at Aylesford is part of the former Reed Paper Group plant and there are other paper related processes on the original site operated by SCA Packaging Ltd (SCA) which recycles brown paper packaging, and Kimberly Clark (KC) which manufactures tissues from imported pulp from recycled sources.

Aylesford Newsprint Services Ltd (ANSL) are a separate company and supply steam and on-supplies imported electricity to all three paper companies on the site. ANSL operate a combined heat and power plant owned by National Power Ltd. Electricity is also supplied to several other unrelated operations on the former Reed site.

ANL supply water to SCA and Kimberly Clark, burn the Kimberly Clark sludge in their combustor and take the SCA sludge into their offsite landfill.

The three paper companies each operate an effluent treatment plant to treat the mill water discharges to a level suitable for discharge to the River Medway.

The "installation" is then defined as comprising the processes operated by ANL, ANSL, SCA and KC. The non paper companies on the site are considered as being solely commercial customers of ANSL and are not included in the installation.

2. SELECTING THE PERMITTING TEAM

Account Manager:
Dave Johnson, the IPC site inspector, was selected as having the relevant technical and site experience for the entire installation.
Team Members
Moyra Tomason for consideration of the waste aspects
Richard Dean for the setting of discharge standards to the River Medway
Jonathan Atkinson for the soil contamination report assessment
Alan Moody for consideration of the water abstraction implications
John Morgan for conservation issues and the Habitat Directive implications.

The team members visited the site for familiarisation as was felt necessary. The AM, although already very familiar with the total installation, found it necessary to spend considerable time on site with the team from ANL in developing the application and considering the issues raised by the application documentation.

THE ANL TRIAL TEAM

Ted Shilling, the Special Projects Director of ANL, gave his support to the trial and guided it to completion. He is also responsible for the input on energy efficiency.
Sian McPike, Environmental Scientist also acting as overall trial co-ordinator
John Tyler, Energy Generation Supervisor
Joanne Milner, Project Accountant
Graeme Findlayson, Water and Effluent Plant Supervisor
Peggy Hagberg, Process Development Engineer
John Godsal, Shift Co-ordinator

ESTIMATION OF APPLICANT'S MANDAYS FOR "REAL" IPPC APPLICATION
FOR THE SINGLE PERMIT FOR AYLESFORD NEWSPRINT LTD.

70 Man days with a team of 6 people plus IPPC familiarisation training 6-9 days.

One expert would be required from each of the 4 main areas of the process.
Fibre Preparation Plant
Paper Machine 14
Paper Machine 15
Plus one each from the general areas of
Utilitiles (also covering energy and noise)
Engineering (general site issues such as drainage, bunding etc)
and the Environmental Scientist acting as overall co-ordinator

This estimate takes account of fact that ANL, in preparation for the site expansion for the new paper machine PM15, had available noise surveys and predictions, soil contamination reports and air dispersion modelling from the Environmental Statement submitted as part of the recent Planning Application. Additional work and costs should be expected for installations that do not have recent data on these issues.

3. THE AGENCY TEAM APPROACH TO PERMITTING

The team approach to permitting is particularly useful where a specific area of expertise is required and available to support the Account Manager's own expertise. These team contributions can in some cases be useful at the start of the permitting process in setting the scene with the applicant (waste) or in detailed consideration of the application for the setting of release limits (water quality)

Of particular importance in this trial has been the consideration of the water quality requirements of the River Medway leading to the setting of release limits for the process. This contribution would be expected to increase when the actual installation applications are made as, for the trial, little consideration has been given to the overall impact of releases from the total installation and if there may be a need to place some interdependency on the permitted releases.

The consideration of the site contamination report also shows this to be a potential area for significant input from the team. Knowledge of the history and potential contamination of the installation area is essential to assess the value of the applicant's submission for the projection of 30+ years when the process has reached the end of its present life. Also consideration has to be given to the potential for migration of contaminants into the permitted site from the neighbouring areas.

Waste considerations formed an important early contribution in setting the scene for the application. In particular the interpretation of paper sludge as not being waste while en-route to the sludge combustor was significant in that it allowed flexibility to be given to emissions from the combustor. The sludge still has a useful role to play in the generation of steam for the process. However, as the steam is exported to ANSL for the generation of electricity before returning to the permitted site (ANL), this may render this interpretation marginally suspect unless transfer of materials or services within the "installation" is considered acceptable. The combustor ash is suitable for use in other industries. This would not be the case if the ash is contaminated with ammonia from chemical NOx reduction techniques required the Waste Incineration Directive.

The generation of process waste is not significant in this industry as broke is always recycled.

Following the early input there was no further requirements for contributions from this team member.

No contribution was possible from the conservation member as the procedures for formal consideration of the Habitats Directive in permitting is under development. When the actual applications are made a significant contribution will be necessary. The recent Environmental Statement for PM15 indicates that the process for permitting does not have a significant affect on conservation areas in the locality.

Input from Water Resources was not required on this trial. It is unlikely that a representative from this function will be required for actual permitting team for this sector.

In summary the AM needs the support of a flexible team that he or she can direct into specific areas either in the pre-application stage or later in considering aspects of the actual application. There is an obvious advantage in developing team expertise in specific sectors as this will cut down the Agency manhours in training on sector specific IPPC issues. An example of the value of this approach is in the paper industry in Kent whereby the lessons learned in the Aylesford installation is of considerable value in dealing with the Kemsley grouping of paper companies where there is likely to be around 6 permits applicable to the one installation.

4. THE APPLICATION

An objective of the trial was to use the application packages as developed for IPPC for making the application. The late availability of these packages in the overall trial program delayed the targeting of this objective. The non-availability of the application packages in a useable electronic form has led to a very disjointed single

hard copy application by ANL. Most of the responses to the questions are in typed form with a reference to the question number. Again this is difficult because none of the secondary questions in a section have numbers. Rebecca Middleton and Sally Burton have made an attempt to convert part of the application as made into a format suitable for inputting the "Agency's Decision" and for electronic distribution solely for improving the useful output of the trial.

If the Adobe Acrobat system is to be used for the application documents then it essential that all users have unrestricted access to this system. The present "read only" access makes the application process "hard copy" only and is time and resource intensive.

Note: Assistance was requested from the National IPPC team in use of the Adobe Acrobat systems. On 28th September a word version of both documents was received to enable the original response to be copied over. However, the word version has been modified since the earlier version and has several additional sections. In view of the lateness of the new information in the trial programme no attempt has been made to seek additional information from ANL.

Both the Common Issues and the Sector Specific documents failed to convey to the applicant the priorities set out in Regulation 8 of the Pollution Prevention and Control Regulations, ie use of BAT to apply appropriate preventative measures against pollution and ensuring no significant pollution is caused and then to consider the additional measures of the avoidance of waste production, the efficient use of energy, the prevention of accidents and finally the restoration of the site to a satisfactory level.

The concentration and prescriptive detail of the questions on the "additional general principles" tended to skew the applicant's efforts away from the "use of BAT" on the main themes.

In both documents there are many examples where it is difficult to distinguish between what is a question that requires an answer and what is a general statement of good practice.

In the Sector Specific document there were many questions that did not relate to newsprint activities. As this was not immediately apparent, it was necessary to draw on the considerable general expertise in the paper industry present in the ANL team to realise this fact as the questions are so specific in nature and would appear to apply to all paper sites. With less experienced teams this may lead to inappropriate improvement conditions being set attempting to implement the requirements of the question.

Energy efficiency is covered in both documents in such prescriptive terms (light bulbs etc) that caused considerable amusement in the ANL team. Newsprint manufacturing at the rate of 1000 tonnes per day is highly energy intensive and energy consumption is of such concern that it is considered at monthly, board level meetings.

Neither document appeared to address the paper industry issues correctly. Following extensive discussion, the concept of energy use per tonne of product loaded for sale was agreed as being the overriding measure of energy use and ANL have supplied that statistic. They are able to do this as it is a modern mill with extensive monitoring equipment. All inefficiencies in production, high broke yields and pumping requirements for high water use etc, are reflected in this figure. The overall plant design and the "fit" of the combined heat and power plant (ANSL) to the overall installation dominates product energy use. Although the energy efficiency measures in the documentation are reasonable in themselves they cannot affect the end result.

The extraction of the calorific content of the paper sludge in the combustors to produce steam for both electricity generation and process steam represents almost 20% of the specific energy consumption of the product. This 20% is a renewable source and does not figure in the site's carbon dioxide emission calculation.

The contribution of paper sludge combustion to the specific energy consumption is of such significance that it must be considered BAT. Alternative uses of the sludge (soil conditioning etc) as described in the application documents as being acceptable routes for disposal of sludge, would not appear to comply with the regulatory requirements of IPPC.

A gas turbine with a waste heat boiler with steam turbine has a fairly fixed ratio of electricity production to steam production and ideally should be sized so that the output meets the full steam and electricity requirements of the installation. To approach this state, for a paper installation, it is necessary to maximise the steam demand so that the gas turbine and steam turbine are of sufficient size to meet the whole electrical requirements of the site. The import of electricity to the site, with its associated high CO_2 emissions is then minimised.

The advice given in the sector specific document is contrary to this principle in that it is recommending increasing the press roll work (increased electricity) to save steam work in drying the paper. This advice follows traditional paper industry procedures but is flawed when the overall energy balance is considered. In this case it is the total installation only that is in CHP balance and hence the consideration of energy efficiency on a single permit basis is difficult.

ANL have developed a Sankey energy flow diagram for the installation. The Sankey clearly shows that the installation has achieved the no electricity import state. The two newsprint machines (PM14 & 15) have a different ratio of electrical to steam requirements to the brown paper machine (PM6) of SCA which requires more steam per tonne of paper. It is these three machines together that allow the installation to achieve the balance and is an excellent example of the benefits of an integrated site.

The Sankey diagram also clearly shows the energy losses from the site. The main area of potential energy loss reduction is the recovery of the heat in the effluent. However, this is low grade heat and of no use to the paper making process, and will always show as a loss. If a suitable local source (swimming pool, horticulture etc) could be developed then recovery of this energy may become economic.

The pursuit of measures to reduce the steam requirements of the installation would be counterproductive as it may threaten the ability of the CHP plant to generate electricity. This is not the case with electricity, however, as a reduction in demand would allow the export of "green" electricity. For this industry, subject to efficiency and paper quality considerations, there should always be a preference for the replacement of electrical demand by steam demand (eg in considering the overall drying requirement of the mill the reduction of the pressing load with a compensating increase in the steam drying load of a paper machine).

ANL made several comments on the Energy Efficiency Section 5.4 of the Common Issues guidance. The relationship between operators in a multi- operator installation and the apparent over-concern on energy efficiency expenditure proposals will need further consideration by the application drafting team. The comments are recorded below.

"Tables 1,2 and 3 need to identify whether the report is for the installation or for the permit. In energy efficiency terms it is best viewed as an installation but this involves providing information about all permits within the installation and these could be under varying ownership. This raises the question of disclosure but this should not present real problems since the technical solutions require co-operation anyway.

Table 3 has an inconsistency in reporting carbon under a heading of carbon dioxide.

5.4.2.3 This needs to be reported in primary energy input terms if the CO_2 emissions are to be meaningful as a monitoring method.

5.4.3.3 Why should energy projects be treated differently from the other potential opportunities when evaluating capital proposals? The history of fuel prices over the last 20 years would demand short payback times on generation projects. Energy consumption is another matter but has to be judged on a basis of return. How can the theoretical value of £100/tonne of CO_2 savings be taken into account unless it is actually paid?

5.4.4.3 Is this statement about capital costs of higher efficiency motors really true? Variable speed motors are only effective on services with regular variation in throughput.

5.4.4.5 Are these items part of the installation?".

The ANL team found considerable difficulty in the relationship between the Sector Specific and the Common Issues Document. For a paper mill, releases to water and energy efficiency are very much sector specific. In the case of ANL the releases to air from the sludge combustor is also sector specific and not a common issue.

ANL considered the format and questioning of the earlier sector document with questions 1.1 to 1.24, clearer and more relevant and searching than in the final draft of the sector specific for the paper industry.

Not all the questions in both documents have been given answers by ANL. The reasons vary from lack of understanding of the purpose of the question to time constraints and, in the case of several of the energy efficiency issues, to a refusal to answer financial questions that were not considered relevant to the requirements of the regulations. Several questions were not relevant to ANL and have been ignored.

Emerging policy for initial validating of an application would seem to be that Customer Services check that all the questions have been answered. If this policy prevails then applicants need to be aware that this is the case and both documents need careful review to ensure that applicants can reasonably be expected to comply. This is not believed to be the case at present. ANL found difficulty in separating statements from questions in some areas.

5. THE PERMIT

The permit format document as issued in August has been used as received. At the request of D Munkman no attempt has been made to correct formatting errors. Page numbering has been added in the footer for clarity but there is a reset to 1 on what should be Page 6 and pages 17 & 18 has reverted to n as the total page numbers.

The format makes it very difficult to import information from other documents and considerable time has been spent unsuccessfully in trying to get the format correct.

The "saving" time is unusually long and the high frequency of automatic saves is time wasting and frustrating.

The permit needs to be completely reviewed by the original drafters and made more user friendly if possible.

As the permit is only for a part of an installation then the cover sheet, permit and Condition 1.2.3 reflect this. The Description of the Installation on page 3 lists the whole installation and then describes the actual permitted part.

The relevance of Page 4 headed "Conditions and Limitations" is not clear and no entries are made.

Section 2, the Sector Specific Operating Conditions, is used to place whole installation conditions which are believed relevant. The three factors of energy, noise and raw materials are interactive across the whole installation, for example the sizing and operation of the CHP plant.

The effluent from the newsprint mill after the ETP may be of sufficient quality to be used as raw water for the packaging mill and it may be possible for the Agency to force developments of inter-company co-operation providing the installation has some form of legal entity.

Section 3 "Additional specific conditions" would not appear to have any relevance in a permit as all conditions are covered elsewhere.

Sections 4 to 10 which place limits on releases to all media should include the measurement and interpretation requirement of the Agency to ensure the enforceability of the limits set. Section 4 gives a good example of this requirement. Assistance from Monitoring Branch is needed in improving the accuracy of these sections.

The reporting of monitoring data section is not totally suitable for continuous monitoring especially where statistical data are required. Could these reports be "In a format to be agreed with the Environment Agency"? In this way we can use the operator's computer printouts or electronic reporting.

6. DECISION DOCUMENT

No attempt has been made to produce a decision document as I understand a format is being developed. Also, the consideration of the operator's response to every question on both documents will need a consistent national approach beyond that proposed as "Agreed 1" etc.

If a response is "not applicable" then that needs considerable expansion as to why the answer is not applicable. If the answer is obvious, such as questions relating to the treatment of coating effluent in a application being prepared by a newsprint mill then that is one end of the scale. At the other hand "not applicable" could mean that the operator does not want to consider the question whatever the relevance and in some areas it will take a very experienced Account Manager to analyse that response.

7. ESTIMATE OF AGENCY TIME TO DETEMINE THE PERMIT

A review of the time spent on this trial would not be particularly helpful as BREF Notes, regulations, guidance and procedures were developing as the trial was underway.

I will have spent some 210 hours on the trial with the other team members spending an additional 60 hours in total (note: there is no conservation input in these times).

A significant portion of my time has been spent with ANL in discussions and development of the application. There has also been considerable repeat work where the guidance has changed

I would estimate that, for a paper industry application where all the guidance is available the man-day input requirement would be:

Account Manager (assuming technical competence in that industry sector and knowledge of the installation)

Pre-application work with the applicant and agreement on the "installation"	3
Validation of application and system work	3
Consultation	4
Determination	10
Decision Document (poor quality estimate as format not seen)	10

Team Members	10
Total Man-days	40

Time can be saved by generalised training of the industry sector (ie a seminar for all the paper companies in Kent). As team competency increases then I would expect to see generalised time savings.

8. COMPLETION OF TRIAL

ANL completed the revised application format on 12th October 1999.
The permit has been drafted from earlier versions and was completed on 7th October

9. REPORT.

The original report was completed on 7th October 1999 and revised to include a contribution from Aylesford Newsprint on 25th February 2000.

10. AYLESFORD NEWSPRINT'S IMPRESSIONS OF THE TRIAL.

"The pilot trial was a useful exercise for a number of reasons and there are a number of important recommendations in the report which we support. Another important benefit was the opportunity for some of our young well qualified staff to discuss in an open way some of the issues and gain first hand experience of how the Agency approaches regulation. They would not normally get this opportunity to understand a sometimes different point of view without a perceived fear of conflict of interest. However I support the view expressed in the report that this needs to take place under the guidance of people with experience both of the industry and regulation. There may be a basis for some training initiative here.

The trial gave the chance for several people in the company to focus on "What questions should be asked?" rather than the more normal "What are the answers?". This has prompted the Aylesford team members to start looking at potential solutions for tomorrow's problems in a number of areas and at least one major study has been initiated as a result.

It is difficult to estimate the effort required to make an IPPC application because in this instance we had a great deal of technical preparation work already and a flexible application format. In the real case one would expect that a lot of technical information would be on hand and the format would be known and also case history would develop. The process should not therefore eventually take much longer than an IPC application in the past."

E T B Shilling Special Projects Director.

Dr D H Johnson Inspector, Process Industries Regulation
Kent Area of Southern Region

25th February 2000.