Improving permitting and inspection of IPPC pig farming installations

by

developing practical guidance

Final report: March 13th 2013

European Union Network for
the Implementation and Enforcement
of Environmental Law

Introduction to IMPEL

The European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL) is an international non-profit association of the environmental authorities of the EU Member States, acceding and candidate countries of the European Union and EEA countries. The association is registered in Belgium and its legal seat is in Bruxelles, Belgium.

IMPEL was set up in 1992 as an informal Network of European regulators and authorities concerned with the implementation and enforcement of environmental law. The Network's objective is to create the necessary impetus in the European Community to make progress on ensuring a more effective application of environmental legislation. The core of the IMPEL activities concerns awareness raising, capacity building and exchange of information and experiences on implementation, enforcement and international enforcement collaboration as well as promoting and supporting the practicability and enforceability of European environmental legislation.

During the previous years IMPEL has developed into a considerable, widely known organisation, being mentioned in a number of EU legislative and policy documents, e.g. the 6th Environment Action Programme and the Recommendation on Minimum Criteria for Environmental Inspections.

The expertise and experience of the participants within IMPEL make the network uniquely qualified to work on both technical and regulatory aspects of EU environmental legislation.

Information on the IMPEL Network is also available through its website at:
www.impel.eu

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Project manager: John Visbeen, Netherlands Judite Dipane, Latvia (co lead)	**Report adopted:** June 2013
Authors: John Visbeen, Netherlands, Annelies Uijtdewilligen, Infomil	**Number of pages:** [80] Report: [33] Annexes: [4]

Project team

Fausto Prandini, Italy; Manuela Florean, Romania; Maria Hill, Sweden; Judite Dipane, Latvia; Helene Soubelet, France; Paula Carreira, Portugal; Tiago Sameiro, Portugal; John Visbeen, Netherlands.

Executive summary:

This IMPEL project was a two year project. During these two years we have been building up a network from inspectors and permitters. We used the IMPEL basecamp for the exchange of information. Result of the project is this report and a separate guidance document.

During two years almost all member states participated in activities and the pig farm project is well known project in the IMPEL network. Results of the project are becoming more known within member states and within other networks. Presentations were given in Lisbon, Strasbourg and Rennes. Another important development during the project was the participation of universities form Portugal and Spain (BAT farm project) and a bureau that is responsible for developing the KTBL tool. During the workshop the awareness raised that the IMPEL-network can play a more structural role during BREF lifecycle process. Practical experiences from inspectors and permitters are valuable.

During workshops the exchange of 'in-the-field' experiences was very important. We used the form of case-studies and story-telling. After the workshop in 2011 we started to work on a first draft of guidance. We started to work in a way that the guidance-document should be more standard for other IMPEL projects. Therefore consultant for pig farm-project and landfill-project contacted each other. The guidance document is a document in progress. A document that can be used by all inspectors and permitters, and also can be completed by all inspectors and permitters based on real life cases. It is an important recommendation to IMPEL to explore this opportunity.

The guidance document is a separate document and also available at the IMPEL website.

Contents

1 Scope

1.1 Project Background

In 2009 a comparison programme on permitting and inspection of IPPC pig farming installations in IMPEL member countries was carried out. The project focused on five key issues: manure storage, manure spreading, animal housing system, air-abatement systems and odour assessment. The aim of the project in 2009 was to learn from each other, to exchange experiences and identify good practices.

The final project report showed that competent authorities in IMPEL member Countries Member States regulate pig farms in many different ways. This is both true for installations above and below the threshold in the IPPC directive. There is, for instance, a variety of systems on manure storage and on animal housing. IPPC permits issued by the Member States vary in their level of detail. Inspections vary in intensity and frequency. It became also apparent that measures sometimes have negative effects like leakages from manure lagoons.

The project report concluded that a further exchange of information between IMPEL members is important and the development of practical guidance for permit writers and inspectors would be desirable.

This project builds on the previous project and aims at producing practical tools to support the permitting and inspection of IPPC pig farms.

As follow up of this project authorities could start applying the guidance tools and where necessary take measures and make changes in their organisation. This process could be supported by IMPEL by organising training and implementation workshops.

1.2 Objectives

The main objectives of the current project are:

Collect more in depth information on permitting and inspection practices related to IPPC pig farming

Assess common problems and needs for guidance

Develop practical tools to help authorities improve regulating IPPC pig farms

The core team intended to achieve the these main project objectives by an discussion of the item with an expert group during a workshop. First we wanted to build up a forum where project information was exchanged. It was also possible to address questions and answers regarding pig farming issues.

1.3 Foreseen Activities 2011 and 2012

In the TOR the project is divided in two years. The objectives will be achieved by:

Phase 1 – Reviewing current practices to assess common problems and needs (January-June 2011)

Building on the information collected in the previous comparison programme the different permitting and inspection practices in the IMPEL Member Countries will be examined more closely. Authorities will be invited to review their present permitting and inspection practices, using the Doing the right things (DTRT) methodology. This methodology distinguishes a number of connected organisational steps, called the Environmental Inspection Cycle. Though DTRT takes the organisation of environmental inspections as starting point, it does also cover permitting which is regarded as one of the factors which to a very high extent determines the context in which inspections have to be carried out. An instruction will be developed to help authorities apply the DTRT methodology for this particular exercise.
The reviews undertaken by authorities will generate more detailed information on how permitting and inspection take place. It will help authorities to identify more precisely what problems they experience and on for what subjects they would benefit from further guidance.

Phase 2: Assessing what guidance could be developed (June – September 2011)

The information and findings from the reviews will be discussed by experts from authorities in different IMPEL Member Countries in a workshop to assess common problems and needs and identify what practical tools could be developed.

Phase 3: Development of guidance tools (October 2011-May 2012)

Based on the results of phase 2 the suggested guidance tools will be developed. In the process of drafting the tools the results of some of the reviews carried in phase 1 will be examined in more detail. Part of that work will be performing a number of joint inspections. Guidance tool could also contain energy-efficiency. (Recommendation from IMPEL-project energy-efficiency, see at IMPEL website-projects)

Phase 4: Workshop to discuss draft guidance tools and production of final project report. (June-September 2012)

In a workshop experts will discuss the draft tools. A final project report with the proposed tools will conclude the project.

2 Organisation of the project in 2011

2.1 Participants project-team

The activities were prepared by a project-team. The project-team in 2011 consists of 8 representatives of 7 member states Members:

- Fausto Prandini, Italy,
- Manuela Florean, Romania,
- Maria Hill, Sweden,
- Judite Dipane, Latvia,
- Helene Soubelet, France,
- Paula Carreira, Portugal
- Tiago Sameiro, Portugal,
- John Visbeen, Netherlands.

2.2. Consultant

According to the TOR it was foreseen that in 2011 a representative of a consulting agency with profound knowledge of permitting and inspection and directives according to pig farming should support the project by:

- preparing the draft documents for the expert group
- preparing the workshop meeting
- documenting the results of the presentations and the discussions during the workshop and make a set-up for a guidance document,
- preparing a draft interim report with the results of the workshop, recommendations and proposal for the TOR for the follow up in 2012,

Infomil was identified as the most suitable and most qualified consultant for the task.

2.3 Milestones

- January 2011: preparation basecamp and identification of a consultant,
- 26-27 January 2011: first project team-meeting in Lisbon, Portugal,
- February-March-April 2011: working on questionnaire, sending out questionnaire, collecting questionnaires and making preparations for second project-team meeting,

- 16 -17 June 2011: second project team-meeting in Lisbon in Portugal
- June-July 2011: preparation for workshop
- 28-29 September 2011: workshop in Utrecht, Netherlands
- October-November 2011: first set up for guidance document, draft interim report and TOR 2012

2.4 Dissemination of results

The draft guidance document will be part of the interim-report and be made available on the IMPEL basecamp. The final project report with the template for documents and data required regarding pig farming inspections will be made available on the IMPEL website end of 2012. It will be sent to the national IMPEL coordinators. The report will also be sent to other target groups (via IMPEL Secretariat at the European level, via national coordinators at the national level).

The results of the project will be reported in professional and technical journals. On top of that they could be used for inspector trainings and presented at conferences.

3.0 Work done in 2011

3.1 First project team meeting January 2011

The workshop started with a presentation of Isabel Santana. She gave an introduction from the Doing the right things project. This DTRT-methodology formed basis for further discussion on the questionnaire.

During workshop we also discussed about scope of project. The aim of Piggy II is to contribute to decrease differences between countries by developing guidance, inspection tools, licensing tools etc. It is important to ensure distinction with Piggy I project. We wanted to focus this time so project can deliver good results and also contribute in good way to the BREF process.

The second day started with a presentation of the pig farming situation in Portugal by Tiago Sameiro and Paula Carreira. There were also presentation from the project members Sweden, Romania, Latvia (also include small topic about assessment of BAT implementation in pig farming) and France

In the afternoon we had a site visit to a pig farm installation. This was very worth full because this is also the site were the BAT farm project is carried out. This BAT farm project was also presented during workshop in September.

On the last day of the workshop we finalized the draft questionnaire that is developed by INFOMIL, based on the DTRT methodology.

3.2 Questionnaire.

Together with participants of the project team a questionnaire was developed by Infomil based on the Doing The Right Things Methodology. After the workshop the questionnaire was sent out. The basecamp from the IMPEL website was very useful for this activity. The consultant collected the questionnaires, made an overview that was used for preparation of the second project-team meeting.

An example of the questionnaire is added as Annex 1 to this interim report.

3.3 Second project team meeting June 2011

First we started with an update of the Technical Working Group. Annelies Uijtdewilligen (consultant) also participates. She mentioned that there is a first draft, there were much comments. The aim from the TWG is to make it more clear to work with it. Techniques will be considered to which will be BAT, some countries made tools for it, for instance Life Cycle Analysis. Probably this can be presented during workshop.
BREF is revise, not totally new approach. But according to IED, new BREF is more strict.
-Infomil is also responsible for implementation IED, we could look on limit BREF en connection to our project. KTBL was also mentioned. It is on internet. In December 2011 there will be second draft of the BREF document version available,

Second part was discussing on questionnaire. While discussing we also looked forward to workshop and possible use for guidance. Herewith follows a summary from the things we noticed:

About odour: problems differ, spatial planning is problem, historical appointed, Netherlands use calculation model on odour. Ideas for workshop/guidance:
-preventing odour problems for new locations, (examples, tools)
-solving problems for existing locations, (examples, tools)
-soft tools (for instance-communication plan, spatial planning),
-hard tools (measures on installations)

About spreading on manure, different methods were shown,

About BREF instructions; -some countries made links, (probably we put information on basecamp), in general countries want more instruction,
-there are different levels of BAT,
-there are two levels, one for farmer who has to make decision what technique to use, the other level is for inspector/permit maker who has to decide if investment is sufficient, Question is how communication is between operator and inspector/permitter. How are appointments written down? Sometimes the difference between solutions on paper, and how the solution is working (or not) in practice.
-question is how to deal with development of techniques, what are obligations for operator, it is also related with investment costs,

About relation with public,
-a tool differs, from publishing/announcement/notification, until full publication of application,
-tools differs for enforcement. In France, publication after possibility for operator to comment or propose for skipping parts because of industrial secret information,
-proposal for workshop: we can show some examples, in some questionnaires links to different websites are made,

About influence of public,
-on individual cases it is all according to procedures,
-also influence in general by NGO, publications in newspapers etc,

-but in some countries there is less influence,
-interesting question: who has to provide pubic from information, for instance in France, operator in permit process; when procedure is completed government,

About permits on website,
Differs, various examples, we can show also links to websites,

About inspection reports on website,
France yes, most countries no, would be good to show examples on website, Estonia created tool that could be interesting,

About permitting process,
Interesting is use of technical commission\consultation of statutory consultees with different disciplines like water, nature, local authorities, fire protection agency,
-Interesting could be the involvement from regional/local level when permit authority is national or regional level,

About involvement inspectors in initial permitting process,
Conclusions about cooperation between permitters and enforcement:
Two moments are important,
-role of inspector in initial permit procedure,
-discussing after inspection if changes on farm can be regulated by new obligations,
-average time for permitting: differs, how can we learn from each other???

About revision time,
Differs, but BREF has to be revised every four years according to IED, so you need check and possible change of permit,
Short revision could also indicate pro-active attitude of sector in country towards development of techniques.
In some countries small changes can be made, some countries change from limited time to non-limited permits,

About non IPPC pig farms,
Most countries, do not give permits but use general binding rules, in general less obligations for operators from non-IPPC,
During workshop we can just ask question if there is problem within this sector,

About permit planning,
This permit cycle should take the BREF revise cycle into account, (tip)
Tools, probably give some examples, or discuss how a tool takes into 'tip' into account,

About planning of inspections, describing the context:
Rather complete information, and conclusion is that this step is used within this Doing The Right Things methodology,

Dispersion models; maybe present good examples of models, or have discussion on the use of these models,

About behaviour: Is tool as a such, How to use this tool????
About to be able to full-fill, also depends on involvement in country in BREF process. When country is not represented, specific techniques that are used in this country are probably not mentioned. That could mean that new investments have to be made.

About risk assessments,
Nice to show some examples, maybe we can make a list of criteria together in workshop, take example from England and Wales into account.

About setting priorities in general,
Some models are described, also with links to documents, so some of them could be presented in workshop, Specially England (again) gives detailed information,
Within pig farming sector: Topics are mentioned, here we can see were all countries, filled in yes, especially on the NO s we can discuss during workshop, for instance vulnerable zones,

About normal frequency,
Off course it also differs. We can make relation, between obligation for IED and risk assessment to determine if farm has to be inspected once a year or once every three years.

About environmental illegal activities;
Interesting overview, water discharges is mentioned one time but one of the problems that affects environment the most, It also could be problem for Spain, Greece, Italy, also in relation with lagoons. It is important to give attention to this subject.

About defining objectives and strategies,
The question is if there is a relation between risk assessment and defining the objectives that are mentioned,

About quantitative and qualitative targets,
Give information and countries can use this as reference. We should make our minds uop how to use this data during workshop,

About enforcement strategy, planning and review,
Focus on new tools,

About executional framework,
Lot of examples with links, Need for protocols, gives interesting point of views. KTBL is already be developed, but we should consider role of IMPEL, (instruction, implementing???)
Vincent can show IT tool for managing manure,

About cooperation with universities,

Air emissions project could be presented, (Portugal, and probably France), could be of great value. Project about manure distance of water, houses, will be finished in France, in juli,

About training:
England has on-line internal training package, inspection IMPEL piggy WIKI, building up as inspectors together based on kind of structure,

About execution and reporting
Good to give overview of successful cases,

About inspection data:
system of England, breaches of permit are connected to fees, it is probably better than naming and shaming, maybe it fits better within administrative law and also gives possibility to distinguish towards criminal law; it is a different approach compared with Netherlands.

Preparing workshop in September:

Second part of the project team meeting was to make appointments about the workshop in December. We discussed possible presentations.

3.4 Workshop September 28th – 29th

The meeting is hosted by Province Utrecht Netherlands. During workshop 26 participants attended the meeting. These representatives came from 17 Member States.

During the first day presentations were given by (presentations are also available in base camp):

- John Visbeen: Opening session - Doing the right thing approach
- Annelies Uijtdewilligen: IED-BREF –TWG (information and developments),
- Ewald Grimm: KTBL tool
- Tiago Sameiro: introduction to Bat farm project
- Rita Fragoso and Pilar Merino: Bat farm project
- Ian Skinner : On line training tool
- Tiago Sameiro: Risk assessment tool,
- Judite Dipane and Timo Kangur: Estonian tool; integration of resources,

During the second day presentations were given by (presentations are also available in base camp):

- Ian Skinner: vase study flies
- Judite Dipane: case study energy efficiency
- John Visbeen: case study overstocking,
- Vincent de Barmon: case study phosphorus problems according to storage and spreading, Vincent de Barmon, on-going court cases in France.

The purpose of the workshop meeting is to determine the kind of tool that is needed and which tools already exist in different member states and can be useful in this project.

After the workshop everybody was encouraged to use the IMPEL basecamp as an information exchange forum.

List of participants

- Romana Sumak; Slovenia
- Vincent de Barmon; France,
- Ian Skinner, England
- David Bruce, North Ireland
- Josef Kalis, Czech Republic,
- Judite Dipane Latvia,
- Sandra Maklere, Latvia,
- Andreas Athanasiades, Cyprus,
- Anamaria Florean, Romania,
- Fausto Prandini, Italy,
- Tiago Sameiro, Portugal
- Timo Kangur, Estonia,
- Vaclovas Berzinkas. Lithuania,
- Javier Vera, Spain,
- Lucy Filby, Scotland,
- Mary Sheehan, Ireland,
- Annelies Uijtdewilligen, Netherlands (consultant)
- Joyce van Geenen, Netherlands,
- Remco Hendriks, Netherlands,
- Robert Tebbens Netherlands,
- Janneke van Wichgeren Netherlands,
- Elisabeth Duarte, Portugal-university
- Rita Fragoso, Portugal-university,
- Pilar Merino, Spain-university,
- Ewald Grimm, Germany-KTBL
- John Visbeen, Netherlands.

You can find the results and content of the workshop in annex 3. It was seen as a first draft of the guidance as result of this project.

4.0 Work done in 2012

4.1 project team meeting June 2012

Because of financial decisions that had to be made by the IMPEL board, activities started later in 2012. First we organised a project team meeting in Brussels (House of Dutch Provinces). We looked back on the successful workshop in 2011. Specially the combination from participants, not only inspectors and permitters but also the participation of universities form Portugal and Spain (BAT farm project) and a bureau that is responsible for developing the KTBL tool, as an important tool supporting the BREF, was of great value to all participants and for the project.

During workshop we also discussed about the draft guidance. Question is if we can make a more standard format for guidance that we can use for more IMPEL projects. Therefore consultant for this pig farm project and also for the landfill project contacted each other to explore this opportunity.

The second part of the discussion was how to make this guidance more available for all inspectors and permitters in the field. We discovered that language still is a big issue. We have to take into account that for us it is normal to use English language, but experience during site visits and workshop is that use of English language is not obvious. Both issues (availability and language) will be on workshop agenda.

The third part was a presentation of the set-up of the guidance document. Few topics were filled in as an example. Conclusion was that the set-up was good, but we also concluded that this guidance should be a document in progress. A document that can be used by all inspectors and permitters, and also can be completed by all inspectors and permitters based on real life cases. It was here that we also discussed the role of the IMPEL basecamp. How can you make the basecamp or the IMPEL website more available for more inspectors and permitters. Also this issues (guidance as a progress document) will be on the workshop agenda.

Last part was the preparation for the workshop in November. Based on the topics in the guidance we discussed about the programme. Here we concluded that our challenge is to organise a real interactive workshop. Therefore we decided that we involve participants on beforehand by asking them to prepare a topic from the guidance book, based on own in the field experience. A draft programme is added to the IMPEL basecamp. (annex 4)

Participants project team meeting Brussels:

- Helene Soubelet; France,
- Judite Dipane Latvia,
- Anamaria Florean, Romania,
- Fausto Prandini, Italy,

- Tiago Sameiro, Portugal
- Annelies Uijtdewilligen, Netherlands (consultant)
- John Visbeen, Netherlands,
- Michael Nicholson, IMPEL secretary.

4.2 Preparation workshop and request for participation

After the project team meeting we started to make preparation for the workshop in November in Utrecht in the Netherlands. We started registration procedure. Following countries already registered:

Ireland, Slovenia, England, Estonia, Latvia, Italy, Lithuania, Romania, Portugal, Poland, Netherlands, France (to be confirmed).

During summer period the project leader received two requests to participate in meetings. One is a activity in Strasbourg in December were as much as inspectors and permitters in pig farm sector are involved. The other is an invitation for a meeting in March 2013. It is a meeting in the framework of the European Interreg Batfarm Project. The aim of this workshop would be to gather scientific researchers and IPPC inspectors in order to exchange on the scientific kno*w*ledge on BAT (housing, storage, treatment and spreading) and the technical real application on such techniques.

4.3 Workshop November 2012

Participants November 2012:
Timo Kangur
Fausto Prandini
Judite Dipane
Diana Kaleja
Ian Skinner
Vaclovas Berzinkas
Andreas Athanasiades
Tiago Sameiro de Sousa
Anamaria Manuela Florean
Romana Sumak
David Bruce
Anna Robak Bakierowska
Rob Segers
Vincent de Barmon
John Visbeen
Samantha Hogervorst

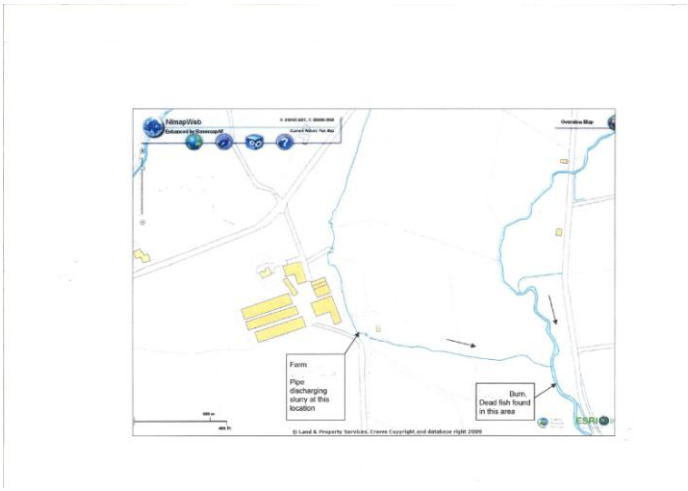
Day 1 Wednesday 7 November 2012:

The first day we started in the house of the Province Utrecht. John Visbeen gave us a small presentation about all the funny and cultural things from Utrecht and the Netherlands. After this presentation, we started with the story-telling part. There were six participants that told something about their own experiences with pig farms.

- **Case story Northern Ireland**: His case story was about the management of site drainage. Inadequate bunding of liquid feed tank and incorrect operation of a yard drainage diverter system. First he started with the background of the IPPC farm he was going to tell about. The farm has 800 sows and finishers. Enforcement notice issued previously to review site drainage, bunding liquid feed tanks. The farmer had failed to carry out the review. There is spillage of ice cream, pollution of local waterway and breach of conditions of PPC Permit/ Water Order. Further he started to talk about the pollution accident. There was:
    - Inadequate bunding of liquid feed tank.
    - The ice cream from the storage tank entered yard drainage system
    - Open manhole routed ice cream to sump
    - Incorrect operation of a yard drainage diverter system in the sump
    - Diverter valve open to storm drain
    - Ice cream entered local stream
    - Pollution noticed by local angler 4-5 km away
    - The pollution incident classed as medium severity, resulted in fish kill (statutory samples obtained)

  After investigation, there were a couple of findings:
    - Breach of permit conditions e.g. failure to prevent contamination of clean water drainage systems and water order offence.
    - Enforcement notice issued requiring bunding of liquid feed tanks, review of site drainage, diverter arrangement and submit proposed improvements
    - Ensure effective operation of swale
    - Prosecution case taken by NIEA
    - Farmer pleaded guilty and fined £1000

  Last but not least he told us about the learning points:
    - Requirement for bunding of liquid feed tanks and a robust yard drainage diverter system and correct operation.
    - Avoid use of diverters for heavily contaminated run-off i.e. Route directly to storage tank.
    - New NIEA site drainage review guidance.
    - All operators to carry out site drainage review e.g. update their site drainage plan.
    - Ensure appropriate training e.g. contractors.



Location map

Yard drainage diverter system

Washing operation of drainage diverter system

Swale. Treatment of lightly contaminated site run-off

Swale. Contamination due to incorrect diverter setting

Pollution reported by angler

Pollution reported by angler

Discharge to water course

Pollution incident. Fish were killed

House washings. Routing directly to storage tanks

House washings. Reliance on yard drainage diverter

- **Case story Romania**: She started her case story with some background information about the farm. The farm is called Nutripork Srl Oradea. The capacity of the farm is 10.000 places and the farm started met activities in 1978. The integrated permit was issued in 2007 and the owner of the farm doesn't own cultivated land, manure is delivered to a third party. She told us that the problem is that there are complaints regarding odour (14 in the last 2 years) and no complaint was recorded at the farm in 2012. The sources of odour are the housing system and the manure storage lagoons. The following is the Romanian legislation and monitoring:
    - In Romania there is no specific legislation regarding odour or adopted assessing methods.
    - The farm has conditions in the permit to monitor NH3- the emissions thresholds are not exceeded.
    - The farm applies BATs in accordance with used technology

  There is an action taken through the NEG to solve the problem. They gave the farmer a sanction from about cumulated € 11.000. After the sanction, the unit took some actions, to solve the problem:
    - Planning the reproduction cycles in accordance with seasons (in summer time should not be planned any populations and delivers), pigs should be in the phase of 30-55 kg when emissions of NH3, H2S, SOx are lower.
    - Using of bio-enzymes and deodorant for agriculture (Maskomal)
    - For near future it is planned to contract "plastic bags" for storage of manure
- **Case story the Netherlands**: He started his presentation about the background of the farm. The farm has an enormous concentration of intensive animal husbandry, mostly pig farming. The farm has 5.5 million pigs and 2,3 million human inhabitants. To feed the animals there is a huge import of foreign fodders, i.e. tapioca and soya from third and second world countries. Because of the import of raw materials there is a gigantic surplus of nutrients, this gives a great risk of environmental pollution. This farm has a couple of consequences related to air:
    - Large emissions of ammonia, small particles pathogens and odour.
    - Much nuisance
    - Risks for public health
    - Concentration of ammonia in atmosphere in Brabant four times more than protected species and habitats can stand.
    - Because of emission of ammonia targets of European Habitats Directive in severe danger.

  The measures of the farm are as followed:
    - Permits that require serious reduction of emission
    - Severe restrictions, installations often expensive to realize
    - Local authorities responsible for environmental supervision and enforcement.
    - Province for Directive Habitats

  After that he began something to tell about the air scrubber and the experiences:
    - Air scrubbers increasingly applied
    - Options for enormous reduction till 95%
    - Easily to manipulate
    - Thorough inspection requires real knowledge

- Inspection frequency once in three years is not sufficient
- Announced inspection provokes fraud
- Supervision insufficient

There are several new initiatives in Brabant to improve compliance:

- More severe punishment
- Faming and shaming
- Deprive illegal benefits from farmers
- Only unannounced inspections
- Encourage / admonish lower local authorities to take responsibility
- Continuous control monitoring of the air scrubbers

Inspection air scrubber

Sometimes inspections are very difficult

- **Case story England**: His case story was about exceeding permitted numbers of pigs in the pig farm. First he started with telling us something about the background of the farm:
  - Permit states number of pigs allowed
    - Sows (including served gilts)
    - Production pigs > 30 kg's
  - Identifies directly associated activities
    - Pigs < 30 kg's
  - Emission points
    - Lagoons and slurry tanks

What was happening on the farm? New buildings were resulting in overstocking, there is a new grower room, a new gilt house and an additional farrowing accommodation. There is a new above ground tank (between sites), there is a new lined and covered earth bank slurry store. All the buildings at upper site changed to fully slatted from straw system. After that he was telling us something about the effect of the farm:

- Emission factors changed (housing type)
- Emission point changed (un-assessed slurry stores)
- Overall emissions changed (increased pig numbers)
- Sensitive receptors nearby. Environmental impact not fully assessed.

What did they do? They served notice to get stocking reduced, they served notice to cover slurry store and they vary permit to include new buildings and lagoon and do ammonia assessment of enlarged site. But what was the problem? We had to prove overstocking, but the key evidence of overstocking were QVR records, which were signed by two people (vet and employee) and included a declaration of truth. The court dismissed this as judge ruled this was not evidence of overstocking.

Installation boundary

New lagoon

New store

- **Case story Slovenia**: She started with some background information about the farm. It is a grower and sows farm. The IPPC permit is granted in 2008. There is a capacity for 12.000 growers (over 30 kg) and 6.300 saws. There are 26 housing objects, a reproduction centre, a WWTP and a cogeneration facility. There is a disposal of animal carcasses and waste of 274 tons a day. WW is threated in 5 steps WWTP (physical/chemical, anaerobic, aerobic, UV, lagoon sludge treatment. The problem in 2010 exceeded EML for PH, total P and BPK 5. In 2010 there was a warning note that the working-order and daily evidence on WWTP did not contain data about daily accepted quantity of slurry. In 2010 there was also an administrative note. It was ordered to the operator to perform necessarily actions to achieve compliance with IPPC conditions for excessive polluted wastewaters for PH, total P and BKP 5 and to perform additional control monitoring of WW. In 2011 they send a reminder in the offence procedure. They issued for incompliance with IPPC conditions in 2010 and two times in 2011 to the legal entity and to the responsible person (director). Prescribed sanction for all incompliances with IPPC conditions is € 75.000 tot € 125.000.

The farm

The farm

The farm

- **Case story Poland**: First she told us something about the regulations of Poland, but after that she began to tell us something about her case story. Her case story was manure storage. The purpose of the inspection is checking a compliance with the environmental provisions and administrative decisions imposed on the operator regarding environmental protection as well as fulfilling the conditions of operating the installation laid down in the integrated permit. About the liquid manure storage she said, slurry generated in the process of pig breeding is collected in channels in the pigsty and then leaded through the pump into four concrete tanks with a total capacity of 12.560 m^3. Slurry tanks are opened and covered with a natural layer or with floating granulated materials. There were some irregularities in the manure storage. During the inspection carried out on the farm the following irregularities were identified:
    - The concrete tanks for slurry were in a bad technical state
    - Damages of the concrete walls (cracking and losses)
    - Metal railings over the tanks were broken

  The following key findings were found:
    - A poor condition of the slurry tanks was regarded as an infringement of the provisions of the act of 10 June 2007 on fertilization, which impose on the farm operators an obligation to store the liquid manure in leak proof tanks with the enough capacity.

- Capacity and sealing of the slurry tanks should fulfil the requirements of the Decree of the Ministry of Agriculture and Food Economy of 7 October 1997 on technical conditions which should be met by agricultural buildings and their location.

After the inspection there was a follow up. Imposition of a fine on the operator of the installation. Submission of a control recommendation according to which the slurry tanks must comply with the requirements of the provisions of the Act of 10 June 2007 on fertilizers and fertilization, regarding leak-tightness. After that they had some results:

- The solid manure was removed from the dung slab and places with lack of tightness were cleaned and prepared for modernization.
- The operator submitted the information that the dung slab would not be in use in coming years due to a new agreement with manure recipient on which dung would be taken directly from the pig house.
- For this reason and due to adverse weather conditions the operator of the installation asked for imposing of a new deadline for renovation of the dung slap.
- The date for realization of the obligation was postponed
- The modernized dung slab is ready to use.

After that, she took the following conclusions:

- Operators of installations for intensive rearing of pigs comply with environmental requirements set in the legal acts as well as the obligation imposed in integrated permits.
- Any serious infringement, which could pose serious environmental threat, did not occur in the last years.
- Infringements of the law refer to documentation, completeness of registers, delay in submissions of reports and monitoring reports resulting from law provisions and integrated permit.
- The most frequent infringement relate to negligence of obligation to conduct environmental monitoring (e.g. Groundwater) and emission measurements (e.g. Noise) arising from integrated permit

Technical state of the slurry tanks

Technical state of the slurry tanks

Technical state of the slurry tanks

Follow up inspection

Follow up inspection

Damaged dung slab

Damaged dung slab

Day 2 Thursday 8 November 2012:

On the second day the province had organised the meeting in front of the hotel, by the Vredenburg meeting place. We started that day with some background information about the structure of the guideline. Fausto had prepared a presentation about biogas. He told us a lot about biogas in Italy and on the end he told us about his reflections on biogas.

- Careful analysis of the potential and energy is needed. Energy saving is very important.
- Use the resources available on-site material (crops, waste, etc.) equipment/machines/systems/etc.

- Analyse and integrate different solutions often there is no technology better than another, but the best one for that site.
- Attention to the environmental problems. Sometimes the solution to a problem is the emergence of other problems like biogas = energy = increase of nitrogen in soil, competition with food chains and quality agricultural products, etc.

Number of installations in Italy

Colombaro

The last day Friday 9 November 2012:

The next day we started a little later, because the night before had become rather late. Today there was just one thing on the program, how to use the guidelines. We had a long, but very interesting discussion about it.

5.0 Results of the project

This IMPEL project is a two year project. The results from this project are not only developing a guidance document but also the use of the basecamp and to build up a network.

5.1 Guidance document

After the workshop the consultant started to work on a first draft of guidance. This draft guidance was annex to the interim-report 2011. In the meanwhile we started to work further on ideas about this guidance, in a way that it should be more standard for other IMPEL projects. Therefore consultant for pig farm-project and landfill-project contacted each other. The result is that format for guidance changed. During workshop we will continue to fill this guidance document with more information. The guidance document is a separate product of this project.

5.2 Network

During two years almost all member states participated in activities and the pig farm project is well known project in the IMPEL network. Results of the project are becoming more known within member states and within other networks. The workshop participants play here an important role. Result of this work are for instance invitations to speak on conferences. The project leader already gave presentation of the project on a Water conference in Portugal. Problems of polluted water related to pig farm sector her is a big issue. During summer period the project leader received two requests to participate in meetings. One is an activity in Strasbourg in December 2012 were as much as inspectors and permitters in pig farm sector from France are involved. The other is an invitation for a meeting in March 2013. It is a meeting in the framework of the European Interreg Bat farm Project. The aim of this workshop would be to gather scientific researchers and IPPC inspectors in order to exchange on the scientific kno*w*ledge on BAT (housing, storage, treatment and spreading) and the technical real application on such techniques.

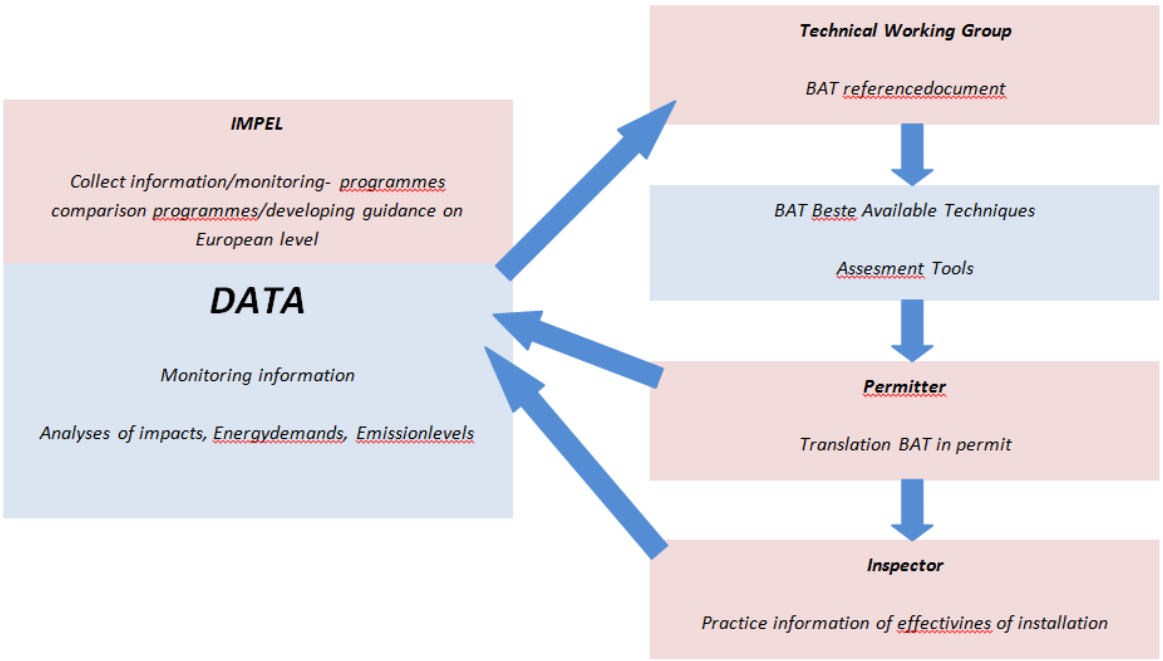
Another important development is the participation of universities form Portugal and Spain (BAT farm project) and a bureau that is responsible for developing the KTBL tool.

5.3 Basecamp

The network is also active on the basecamp. At this moment participants are still involved. During the workshop the participants recommended to think about a way to make the guidance available under the IMPEL website. It should be a document in progress. A document that can be used by all inspectors and permitters, and also can be completed by all inspectors and permitters based on real life cases. It is an important recommendation to IMPEL to explore this opportunity.

5.4 Role of IMPEL in BREF procedure.

Conclusion and recommendation is the awareness of the structural role that the IMPEL network can play during BREF lifecycle process. Practical experiences from inspectors and permitters play an important in a way that is shown in the following schedule:



Annex 1: Questionnaire IPPC pig farm project II (filled in example England and Wales)

Introduction

You are invited to fill in this questionnaire. The questionnaire is designed for permitting and/or inspection authorities who deal with IPPC pig farms. By filling in this questionnaire you don't just give information to the project team, but you also perform a review about the present permitting and inspection practices within your organization. Your input will be used to decide what kind of guidance can be developed during this project.

The IMPEL "Doing the right things" Guidance Book for planning of environmental inspections has been used to help structure Part C of the questionnaire. The guidance Book was developed to support Inspectorates and describes the different steps of the Environmental Inspection Cycle. See also Annex I.

In the case when there is more than one organization involve in permitting and inspection. We want to ask you if it is possible that for both organizations the questionnaire is answered, either separate or together. It will improve good quality of answers.

Purpose of the questionnaire

The aims of the questionnaire are to:

1. Collect in depth information on problems or challenges related to IPPC pig farming.
2. Provide the IMPEL members inventory of good examples and permitting and inspection tools that already has been developed in member states.
3. Inventory of need for common guidance that should be developed.

Contextual information

1. Please give your name and contact details and indicate you're position	Ian Skinner (Technical advisor – Intensive Farming). Tel: 07880 787714 ian.skinner@environment-agency.gov.uk
2. Please give the name of your organisation	Environment Agency
3. What territory (country, region, city etc.) does your organisation cover	England and Wales
4. Are responsible for pig farming permitting, inspection, enforcement or both?	Yes, both

Please fill in the questionnaire before 31 may and put it on basecamp or send it to john.visbeen@provincie-utrecht.nl

Structure of questionnaire

Part A – Defining the regulatory framework of environmental protection concerning pig farming in the IMPEL member country.

Objective
To find out about the organization of the environmental authority, the relevant legislation it complies with and relationships with the public and other countries.

Part B– Permitting activities

Objective
Explore the permitting activities of the environmental authority.

Part C – Performing inspection tasks (Environmental Inspection Cycle)

Objective
The objective of this part of the questionnaire is to find out the criteria and procedures for planning of inspections and how this is put into practice. This part of the questionnaire is structured according to the different steps of the Environmental Inspection Cycle from the IMPEL "Doing the right things" Guidance Book. The cycle is shown in detail, in the Annex.

C.1. Planning of inspections

Objective
To find out the criteria and procedures for planning of inspections and how this is put into practice.

C.2. Execution framework

Objective
To find out what provisions, instructions, arrangements, procedures, equipment etc, are in place to enable inspectors and other staff to carry out inspection activities on the ground.

C.3. Execution and reporting

Objective
Find out how routine and non-routine inspection activities are carried out and reported and how data on inspections carried out, their outcomes and follow-up is stored, used and communicated.

C.4.Performance monitoring

Objective
Find out how the environmental authority assesses its performance and the environmental and other outcomes of its activities.

Part A – Defining the regulatory framework of environmental protection concerning pig farming in the IMPEL member country.

Objective
To find out about the organization of the environmental authority, the relevant legislation it complies with and relationships with the public and other countries.

The annexes and report of first pig farming project, which can be found on IMPEL website, www.impel.eu provides us from a lot of information concerning permitting and enforcement, therefore in this box we ask only few additional questions:

Legislation:
To identify the extent of regulation your organization has to take into account for pig farming, please fill in the next table. If there is no regulation, just fill in - . If regulation exists, fill in what kind, for instance: law, guideline, order, regulations, general binding rules, policy, obligations in permit, rules.

There are also more possibilities for instance: odour can be regulated in national legislation, also some additional policy on regional level and maybe even obligations on local level.

Answer: In England and Wales all **regulations** are applied nationally. However, there may be local planning **constraints** based on site specific factors and sensitive receptors which are the responsibility of the Local Planning Authorities and may influence their decisions.

Level: **Topic:**	**National**	**Regional**	**Local**
Odour policy and obligations are the same	Environmental Permitting Regulations – 'no significant pollution'		Obligation in Permit. Laws – Statutory nuisance and Environmental Protection Act
Fine dust	Environmental Permitting Regulations – 'no significant pollution'		• Local Air Quality Management Regulations • Obligation in Permit. • Laws – Statutory nuisance and Environmental Protection Act
Ammonia	• Environmental Permitting Regulations – 'no significant pollution' • Habitats Regulations • Countryside and Rights of Way Act • National Emissions Ceilings Directive		Obligation in Permit.
Emissions to air	Environmental Permitting Regulations – 'no significant pollution'		Obligation in Permit.
Emissions to	Environmental Permitting		Obligation in Permit.

water	Regulations – 'no significant pollution' Water Industries Act		
Emissions to soil	Environmental Permitting Regulations – 'no significant pollution'		Obligation in Permit.
Emissions to groundwater	Environmental Permitting Regulations – 'no significant pollution' Groundwater Regulations		Obligation in Permit.
Use of groundwater	Environmental Permitting Regulations – 'no significant pollution'		
Manure spreading	Codes of practice for all farms		Obligation in Permit.
Noise	Environmental Permitting Regulations – 'no significant pollution'		Obligation in Permit. Law – Statutory nuisance

Obligations:
We also want to present overview if obligations are written in legislation or in permits, or maybe both, so please fill in next table:

	IN PERMIT	IN LEGISLATION
Odour obligations	Yes	Yes
Fine dust	Yes	Yes
Ammonia	Yes	Yes
Emissions to air	Yes	Yes
Emissions to water	Yes	Yes
Emissions to soil	Yes	Yes
Emissions to groundwater	Yes	Yes
Use of groundwater	No	Yes
Manure spreading	Yes	Yes
Monitoring	Yes	No

BREF:
-Are directions/instructions on how to work with the "Bref Intensive rearing of poultry and pigs" specific for your country available?

Answer:
Yes in EPR 6.09 Sector Guidance Note - How to Comply with your environmental permit for intensive farming.

-Is there need for further instructions on Bref?

Answer:
No but difficult to comment at the moment as the revised Bref has not yet been issued

-Is the BREF translated in your country?

YES, TOTAL - n/a	YES, PARTS	YES, SUMMARY	NO

Relations with public:

-How is the general public involved in decision making concerning permitting and inspection? (from application for a permit, inspection and enforcement)

Answer: Permit applications are published on the Environment Agency website and the public are invited to comment. For sites of high public interest the application is also advertised in the local press to raise awareness of it locally.
There is no public involvement in routine inspections or enforcement.
We will investigate amenity complaints from members of the public to verify their legitimacy.
The public may become witnesses in the event of enforcement action being taken.

-How big is the influence of the general public? (pig farming compared to other sectors)

Answer: All submissions by the public are considered during the permitting process. Pig farming is treated in the same way as any other permitted sector.

-What kind of tools do you use in involving public (publication in paper, publication on website, mailing lists etc.)

Answer: Publication on website for all permit applications and substantial variations.
Publication in local newspaper where a site is considered to be of high public interest (close to sensitive receptors – conservation sites, housing, schools etc).

Reporting to Public?

Are permits put on website?

Answer: No but they are all put on the Public Registers which are held by the Environment Agency and the Local Authority. Members of the public can request to see information from these registers.

If yes: Please provide us from link with website address:

http://www2.environment-agency.gov.uk/epr/info.asp

Are inspection reports put on website?

Answer: No but they are put on the Public Registers which are held by the Environment Agency and the Local Authority. Members of the public can request to see information from these registers.

If yes: Please provide us from link with website address:

http://www2.environment-agency.gov.uk/epr/info.asp

Part B– Permitting activities

Objective
Explore the permitting activities of the environmental authority.

-Describe in maximum 10 steps the permitting process. (practical steps)

Answer:
For new permit applications and variations to existing permits:

- Pre-application – farmer discusses proposals with local Environment Agency officer
- Application submitted with fee and supporting documents
- Screening for ammonia effects on local conservation sites
- Consultation with statutory consultees - Local Authority Environmental Health and their Planning Department, Food Standards Agency, Primary Care Trust (Health) or Local health board, Health and Safety Executive. Where there are nearby nature conservation sites we will consult with Natural England or The Countryside Council for Wales. Only if SACs, SPAs, Ramsar sites or SSSIs could be affected.
- Publicise and advertise where appropriate
- Permit and decision document drafted based on consultee responses and screening results
- Draft permit sent to applicant for checking (for sites generating high local interest we may publish draft decision document and draft permit on our website).
- Permit issued

-Describe how the organizations that carrying out inspections are involved in the initial permitting process.

Answer:
The Environment Agency is responsible for both permitting and inspections. The local Environment Agency officer will be involved in the initial pre-application discussions to highlight any significant issues with the applicant. The results of the initial ammonia screening assessment will also be forwarded to the applicant by their local officer. This will identify if ammonia modelling will need to be done before the permit can be determined. The officer will also act as a liaison between the permitting officer and the applicant. Once the permit is issued the local Environment Agency officer is responsible for inspections and ensuring compliance with the permit.

-If your authority is NOT responsible for inspection/enforcement, give your opinion about cooperation with permitting organization on scale 1-10: N/A

1	2	3	4	5	6	7	8	9	10

-If your authority is NOT responsible for permitting, give your opinion about cooperation with inspection organization on scale 1-10: N/A

1	2	3	4	5	6	7	8	9	10

-What is the average time required for producing/revision an IPPC pig farm permit?

Answer:
4 months for either a new permit or a substantial variation of an existing permit. More simple variations to a permit may take approximately 3 months

-How often (on average) does an IPPC pig farm permit needs revision?

Answer:
As the pig sector is continuously evolving to adapt to market conditions many permits are varied as they either expand, build new infrastructure, modify existing structures, etc. Some permits have been revised/varied/transferred within two years of their issue.

-How is this compared to other (industrial) IPPC installations?

Answer:
Not known

Permitting on non IPPC (IED) pig farming:

-Does your country give permit for non IPPC pig farming?

Answer:
No

-If yes; can you say in general that the same obligations are prescribed in these non IPPC permits,

Answer:
N/A

Permit planning:

-Does your organization develop and permitting plan or schedule? Please describe.

Answer: Yes – for individual applicants there is a schedule of steps and the guidance available to help them complete those steps (click on the embedded document)

091127_EPR_IF_app
lying_for_a_permit_f

Use of new technology

- Do you use "new technology (for instance, use of internet, specific software, programmes etc)

Answer:
All guidance documents and application forms are available on our website. All documents have web links within them to take farmers to the relevant section of the Environment Agency website.

Requests for information from the public registers can be via an online system. Currently permit applications cannot be submitted online, but this may change in the future. There is specific software developed for;

- the gathering of inspection data by external bodies (Farm Assurance Scheme Module),
- scoring and recording of all non-compliances (Compliance Classification Scheme),
- storing of all permit documentation, inspections and consultee responses (Permit Administration System)
- recording of all visits for both permitted and below threshold pig farms (FARMS integrated regulation system)

Environmental Impact Assessment (EIA)

-For which situation is there obligation for EIA?

Answer –
Environmental Risk Assessments (ERA) are required by the Environment Agency
Environmental Impact Assessments (EIA) are required by Local Planning Authorities

They are broadly similar and both involve an assessment of emissions and their likely impacts on a range of receptors and environmental features.

All developments related to permitted sites are required by the Environment Agency to do an **Environmental Risk Assessment (ERA)** as part of their **permit application**. They may **also** be required by the Local Planning Authority to submit an **Environmental Impact Assessment (EIA)** as part of their **planning application.** The environmental statement produced will be considered as part of a permit application.

Developments related to non-permitted sites **will not** require an ERA but **may** require an EIA. The decision to require an EIA is made by the Local Planning Authority (LPA) based on the requirements of the Town and Country Planning (Environmental Impact Assessment)(England and Wales) Regulations 1999 S.I. no 293. This requirement identifies certain industries, locations, proximity to designated areas of conservation, human habitation etc which may need an EIA. This includes farms with more than 900 places for sows, over 3000 production pigs and/or where a new development exceeds 500 sq.m floorspace or an area of 0.5 hectares. In these cases, the Environment Agency is a statutory consultee (this can include developments on/of non IPPC farms). They will do screening to see if an EIA is needed and scoping to establish the criteria that need to be addressed by the EIA.

For new IPPC pig farms	Yes – an ERA via the permit process subject to results of screening and possibly an EIA by the planning system subject to the criteria above
For new non-IPPC pig farms	Yes – possibly an EIA via the planning system depending on consultee responses
For growth of existing IPPC pig farm	Yes – an ERA via the permit process subject to results of screening and possibly an EIA by the planning system subject to the criteria above
For growth of existing non IPPC pig farm	Yes – possibly an EIA via planning system depending on consultee responses
For change of existing IPPC pig farm	Yes – an ERA via the permit process subject to

	results of screening and possibly an EIA by the planning system subject to the criteria above
For change of non-existing IPPC pig farm	Yes – possibly an EIA via planning system depending on consultee responses

-Is the Authority for EIA the same for IPPC permits?

Answer:
No. The Environment Agency is the authority for IPPC permits and uses an Environmental **Risk** Assessment but the local planning authority is the authority for IPPC and non IPPC farms which require an Environmental **Impact** Assessment

-What has to be reported in a EIA is described in the European guideline (appendix 4) Are there problems in using the European guideline (appendix 4) for EIA. Please describe.

Answer:
The requirements of the European guidelines are incorporated into our Horizontal guidance (H1 covers the Environmental Risk Assessment). This is applicable to all permitted sectors (with annex B being specific to intensive farming). Horizontal guidance is also available to cover – Energy efficiency (H2), Noise (H3), Odour (H4), Site condition report (H5), Environmental Management Systems (H6). All of this guidance is available via the following weblink –
http://www.environment-agency.gov.uk/business/topics/permitting/36414.aspx

-Are the recommendations of the EIA integrated in the IPPC permits?

Answer:
Yes. Any risks identified during the Environmental Risk Assessment (ERA) will be incorporated into a permit, whereas recommendations identified during an EIA may be integrated within a permit. Any remediation, improvements or management plans that are necessary to address environmental risks will be covered by a specific condition.

-Do you make any concern about energy efficiency in the Environmental impact assessment? If yes, how?

Answer: No. Energy Efficiency is covered by a specific permit condition in all permits. Operators that have not signed up to a Climate Change Agreement are required to review their energy usage every four years and investigate alternative sources and procedures to improve energy efficiency. There is specific Horizontal Guidance – H2 which covers energy.
http://www.environment-agency.gov.uk/static/documents/Business/interimenergy.pdf

-Does your institution participate in EIA procedure?

Answer:
Yes. For IPPC farms the Environment Agency is the permitting authority and is responsible for overseeing the Environmental Risk Assessment associated with a permit application. For the creation of, or expansions to all farms (including non IPPC pig farms) the Environment Agency is a consultee to the planning application.
The Local Planning Authority will then take the EIA into consideration when it makes its decisions on the planning application.

-What are the main problems regarding implementation of EIA results e.g., in preparing of permit?

Answer:
Where an Environmental Risk Assessment or an Environmental Impact Assessment identifies that an aspect of the environment may be significantly affected by the permitted activity then a condition will be included in the permit to prevent, reduce or offset the effects.
The permit condition may require specific monitoring, recording and reporting and periodic reviews.

-give your assessment of quality of results of EIA on scale 1-10:

Answer- The results are site specific but an EIA will not be accepted until it has addressed all of the issues identified in the scoping.

1	2	3	4	5	6	7	8	9	10

-

Part C – Performing inspection tasks (Environmental Inspection Cycle)

Objective
The objective of this part of the questionnaire is to find out the criteria and procedures for planning of inspections and how this is put into practice. This part of the questionnaire is structured according to the different steps of the Environmental Inspection Cycle from the IMPEL "Doing the right things" Guidance Book. The cycle is shown in detail, in the Annex.

C.1. Planning of inspections

Objective
To find out the criteria and procedures for planning of inspections and how this is put into practice.

1a describing the context

By describing the context the authority identifies the scope of its inspection plan and gathers information for the risk assessment as basis for setting inspection priorities.

-In what region/province in your country are pig farms concentrated (just from point of view from country)

Answer:
Norfolk and Suffolk in Eastern England and South Yorkshire in the North East of England

-How many **IPPC pig farms** are there in your region/country?

Total	> 2000 pigs	> 10.000	> 15.000	TOTAL
Eastern and North East England	118	4	2	124
England and Wales	173	5	2	180

-How many non IPPC pig farms are there in your region/country?

Total	Non IPPC <2000	
England and Wales	7884	9600 pig holdings in UK of which 84% in England and Wales = 8064 total holdings. 180 with permit and 7884 without

More or less: How many **IPPC and non IPPC pig farms** are older than 15 years? (% in percentage)

Answer: Not Known

More or less: How many **IPPC pig farms** are owned by foreign companies? (% in percentage)

Answer: Not known

-What kind of information according to **IPPC and non IPPC pig farms** do you use to describe the context: (please add as much as possible topics)

	yes	no
Amount of complaints concerning IPPC pig farms	√	
Results of previous inspections	√	
New or old permits	√	
Environmental illegal activities	√	
Calculation with dispersion models.	√	
Accidents	√	
Size of farm (for non IPPC farms)	√	
Annual reports		√
Compliance history	√	
Location and proximity to sensitive receptors (for non IPPC farms)	√	
Shallow and sandy soils and sloping ground (for non IPPC farms)	√	

-Are there dispersion models/results or calculation models of emissions related to pig farming available that are used for describing context

	Please give short description
Dispersion models for water	The groundwater vulnerability for the whole country has identified Source Protection Zones (SPZ). These are areas where groundwater abstractions are susceptible to contamination from any surface applied materials. Pig farms in a SPZ may be restricted in the types of slurry and manure stores that they can construct. They may also be restricted from discharging any effluents to soakaways. Two dispersion models LandSim and ConSim are available to assess impacts in SPZs. They are based on Monte Carlo simulation techniques for predicting adverse groundwater effects at a given assessment point (a sampling or abstraction point)
Dispersion models for air	ADMS and AERMOD are two air dispersion models commonly used in ammonia dispersion from poultry/pig farms for regulatory application. Both ADMS and AERMOD contain a deposition module for calculating the hourly dry deposition flux under the assumption that the dry deposition velocity is independent of the pollutant concentration. The modules may not be fit for purpose in modelling ammonia from intensive farming emissions. Until the models deal adequately with this issue we recommend a two-stage approach; <u>Stage one</u> Use an appropriate dispersion model to predict the annual average ammonia concentration in air with the deposition module switched off. <u>Stage two</u> i) When Stage one predictions, without the inclusion of ammonia deposition, indicate that the relevant assessment thresholds are exceeded, appropriate concentration

	dependent deposition velocities covering the range of predicted concentrations need to be used and the model re-run.
Dispersion models for odour	The Environment Agency does not favour or prescribe the use of any particular odour model and it is for operators to justify their choice of model (including the version). The chosen model (and specific version) must be fit for purpose and based on established scientific principles. It also needs to have been validated and independently reviewed. For the purpose of transparency, the Agency expects full technical specifications, validation and review documents of the chosen model (and the specific version) to be publicly available There are two types of dispersion models that meet these requirements and can currently be used to predict a map of the odour concentration frequency caused by odour emissions: 1. Steady state Gaussian models (e.g. AERMOD, ADMS). These general-purpose models are well established and routinely applied for odour assessments, and represent a good mathematical approximation of odour plume behaviour when the odour source is located in relatively simple terrain; where the winds are relatively evenly distributed; and where the frequency of low wind speeds (< approx 1.5 m/s) is below 2% for each compass direction. 2. Non-steady state Lagrangian models (e.g. Calpuff and the German regulatory model Austal). Also known as 'puff' models. These models are increasingly being used for odour assessments purposes and are capable of simulating a wider range of dispersal conditions than steady state models (e.g. valley channelling, cold drainage, coastal effects, stagnation, high percentage of low wind speeds or calms). They are therefore useful for odour assessments at sites which are characterised by such complex air flow/dispersion conditions.

-Behaviour of pig farmer: Just an indication. You have 100 points, please divide these points in the box between this six possibilities.

Example:

	Not knowing	**unable**	**unwilling**
Inclined to comply	*-inform* *-draw attention* **Points: 25.**	*-facilitate* *-draw attention* **Points:25.**	*-reward or persuade* **Points: 10.**

Inclined to violate	*-inform* *-enforce* **Points: 15.**	*-facilitate* *-enforce* **Points: 10.**	*Deterrence by tightening* *-inspection* *-sanctioning* **Points: 5**

Please fill in box, just indication based on your experience; don't make study of it.

	Not knowing	**unable**	**unwilling**
Inclined to comply	*-inform* *-draw attention* **Points:.65.....**	*-facilitate* *-draw attention* **Points:.15....**	*-reward or persuade* **Points:...5....**
Inclined to violate	*-inform* *-enforce* **Points:.5**	*-facilitate* *-enforce* **Points:...5...**	*Deterrence by tightening* *-inspection* *-sanctioning* **Points:.5.....**

1b Setting priorities

IN GENERAL

-Do you use risk assessment to set priorities for inspections?

Yes, to prioritize between certain sectors	No
Yes, to prioritize within sectors	Yes
Yes, to prioritise between sectors and within sectors	No

-What model do you use, please describe in the box on next page:
(for instance: table of eleven (you can find more information on this topic on base camp)
OR risk = change X effect OR table of eleven)

High risk		
Low risk		

RISK/ EFFECT	Small effect	Big effect

Please describe your risk model:
For all farms (IPPC and non IPPC) in England it is based on a number of factors -

- Size – larger installations have the potential for greater emissions (although they may be better financed and managed etc.)
- Location – proximity to sensitive habitats, surface waters, groundwater etc
- Designations – Whether they are in a Nitrate Vulnerable zone or a Groundwater Source Protection Zone
- Geological – Shallow and sandy soils have higher leaching potential, chalk sub-strata can have complicated hydro-geological pathways and processes
- Geographical – Slopes and climatic factors can affect the likelihood of run-off, erosion, cropping and farming options (outdoor pig production in England is mainly on free-draining soils in East Anglia. This may be beneficial for managing pigs but may have large impacts on ground waters)
- Farming enterprise type – The production, storage and possible land-spreading of manures makes livestock enterprises inherently riskier to the environment for some aspects such as nitrates than arable enterprises (and cattle are riskier than pigs which are riskier than sheep etc). However, arable farms can carry a higher risk of pollution from pesticides than livestock.
- Compliance history – this is more relevant to IPPC farms where the operator performance score is based on the levels of compliance they have achieved on previous visits
- Pollution Incidents and complaints – this will influence the risk assessment and is in part a reflection on the standards of management on a particular farm
- Environmental awareness – participation in any agri-environment schemes (ELS and HLS – which are schemes involving habitat creation and environmentally friendly land management), membership of LEAF (Linking Environment and Farming) and the Farm Assurance schemes are indicative of an operator having awareness of the impacts that agriculture can have on the environment and shows a willingness to adopt farming practises that reduce and mitigate these effects.

NB - A number of farms are inspected each year as part of a random selection for the purposes of cross-compliance to meet requirements of the Single Farm Payment Scheme. These random selections are not necessarily based on any of the criteria listed above.
Click on the embedded attachment (below) for a fuller explanation of our Risk Based Approach (RBA) for England and Wales.


Risk Based Approach.doc

(if possible attach example to this questionnaire)

-How high on this list are IPPC (pig) farms?

Answer:
IPPC farms are considered a risk because they are large, and pig farming is an inherently risky farming type. Against this is the fact that they are regularly inspected and operate within the constraints of

permit conditions. They have their own inspection frequency that is determined by their permit compliance and they are all inspected at a minimum of one visit per year.

-Does your organisation set priorities which results in a list of activities (one of the activities being farming) that are ranked and classified?

Answer:
Yes – Generally of the sectors that are covered by IPPC, farming is considered to be a comparatively low risk industry when compared to other sectors such as Nuclear, Refineries and Fuel, Metal Manufacture, Cement and Minerals, Paper and Textiles, Energy from Combustion, Waste Storage and Treatment etc.

WITHIN PIGFARMING SECTOR

-Does your organisation make a list with pig farms that have most priority of visiting?

Answer:
Yes through the Compliance classification and FARMS databases.

-If yes, on what base? Please fill in and add other topics if possible:

	yes	no
Number of pigs – to the extent that they may be above the IPPC threshold	√	
IPPC or not	√	
Behaviour	√	
Connected activities (food production, manure spreading),		√
Vulnerable area's	√	
Neighbourhood	√	
Experiences in previous inspections	√	
Number of complaints	√	
Targeting sub–Catchments to meet Water Framework Directive objectives	√	

-What is the normal frequency of IPPC pig farm inspections?

Answer:
One per year

-Is in your country inspection same for IPPC or non IPPC pig farming?

Answer:
No – non-IPPC pig farms are not routinely inspected. They may be selected for inspection based on the risk based criteria outlined at the beginning of section 1b but there is no minimum amount of inspections that they must have and some pig farms may never have been inspected.

-What environmental illegal activities are most common at pig farms?

Answer:
Inadequate bunding around fuel, feed and wash-down areas
Inadequate or poor storage and analysis of manures and slurry

Overstocking
Poor site drainage and inadequate clean and dirty water separation
Odour, noise, and flies

-Which ones are the hardest to solve?

Answer:
Improving the storage of manures can involve substantial investments by farmers and covering very large uncovered slurry lagoons is both financially and technically challenging. Where a lagoon is also a source of odour complaints, addressing the concerns of the public and agreeing a solution with the farmer can be contentious and very time consuming.

ON ENERGY EFFICENCY:

Do you set priorities on energy efficiency topics:
(add topics if possible)

	yes	no
Renewable energy		√
Biomass		√
Cogeneration		√
Energy reduction	√	

Do you have guidance on energy efficiency topics, please describe:

Answer: H2 is our horizontal guidance document for energy efficiency for all IPPC sectors


interimenergy.pdf

We have produced a factsheet to help farmers to do their four yearly Energy Review as required by their permit (if they have not entered into a Climate Change Agreement).


Factsheet_-_How_to
_review_energy_effi

The factsheet includes several links to further information. One of these is to the Carbon Trust which has produced the following document which covers Energy Use in Pig Farming


ECG089[1].pdf

(if possible attach examples)

1c Defining objectives and strategies

-Please give definition of "objective" that you use in your country:

Answer: An objective is a high level aim or series of aims which we wish to achieve. – For example

'Farming and land management that is sustainable, protects soils, water and biodiversity and positively contributes to reducing and adapting to climate change'.

-Can you give example of objectives which are formulated for pig farming sector:

Answer: For agriculture generally and with particular emphasis on pig production (including outdoor herds which account for an estimated nearly 60% of all breeding sows in England and Wales) there is the objective of -

'More surface and groundwater achieves good status because of reduced impacts from land management activities'.

To help meet this objective, the latest revision to the Action Management Programme as part of meeting the Nitrate Directive has required pig farmers to have sufficient storage capacity for 26 weeks of slurry production to reduce the risks of spreading when weather or ground conditions increase the risk of run-off or leaching and to increase the amount of available Nitrogen that is utilised by crop production.

-Please give definition of "target" that you use in your country:

Answer: Indicators and criteria which are **measurable** which we intend to reach by a **specific time** or over a **specified timescale** as part of meeting our objectives – For example in order to meet our objective of reducing and adapting to climate change, one target is –

'The **Agriculture Industry Green House Gas (CHG) Action Plan -** this sets out the initial steps the partnership of English agriculture industry organisations will take to deliver a reduction in annual emissions in England of 3 million tonnes CO2-equivalent (Mt CO2e) by the third carbon budget period (2018 – 2022)'.
http://www.nfuonline.com/ghgap/

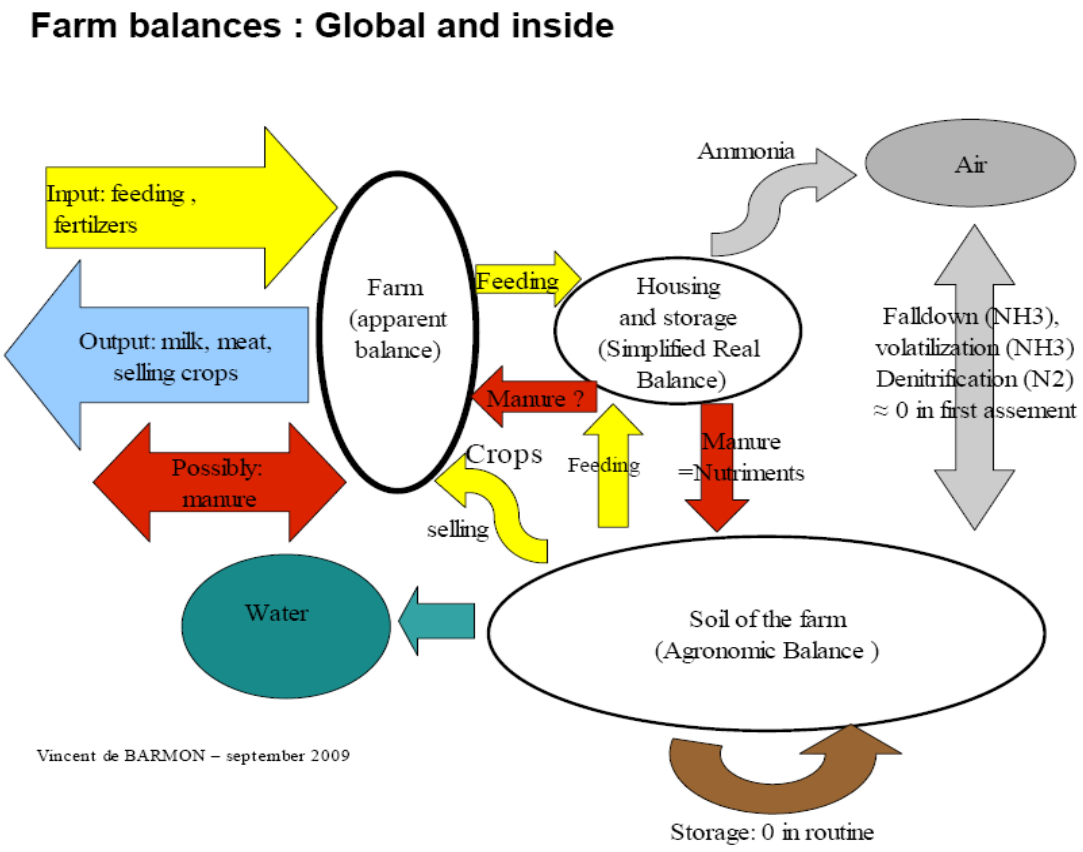
This is measurable and contributes to the final objective but doesn't fully achieve it. Meeting the target is a step along the way towards meeting the objective.

Quantitative targets
Please give examples of quantitative targets that you use and that should be used
Please add as much as possible

	We use this target	We should use this target	We don't use this target
Hours	√		
Number of inspections	√		
Number of inspection reports			√

Number of permits			√
Average time spending on inspections	√		
Average number of inspections for each person in the inspection staff			√
Percentage of inspections within allowed “procedure-time”			√
Number of inspections per total installations	√		
Decrease of number of non-compliances	√		
Number of complaints	√		
Amount of emissions	√		
Number of IPPC farms that have reviewed their drainage and buildings to ensure they are built and managed to BAT	√		

For qualitative targets please take notice of the model we used in report form first pig farming project:



Qualitative targets

Please give examples of qualitative targets that you use and that should be used

Please add as much as possible

Answer – While many of these are not set at a specific numeric level that we want to achieve, either at or during any specific time, our databases are searched to identify whether reviews have been done, the number of complaints from a sector, the number of non-compliances and what they relate to etc. Based on our findings, we may target specific farms or catchments for particular types of breach or pollutant.

	We use this target	We should use this target	We don't use this target
Complaints			√
Accidents			√
Technical improvements/BAT			√
Increasing the ground water quality	√		
Decreasing the consumption of water			√
Decreasing the consumption of energy	√		
Increasing the amount of waste that is reduced, recycled and reused	√		

Enforcement strategy

-Please give definition of "enforcement strategy" that you use in your country:

Answer:

The Environment Agency use a range of enforcement and sanctioning tools to achieve the best outcomes for the environment and people. This may range, from providing advice and guidance through to prosecution. Within this overall approach, where an offence has been committed we will consider issuing some form of sanction as well as any other preventative or remedial action taken to protect the environment and people. Anything beyond the provision of advice and guidance or a warning is considered to be a sanction, either civil or criminal.

When considering the appropriate course of action to address offending and to ensure compliance, we aim to follow the penalty principles in the Regulators' Compliance Code. We:

I. aim to change the behaviour of the offender;
II. aim to eliminate any financial gain or benefit from non-compliance;
III. be responsive and consider what is appropriate for the particular offender and regulatory issue, which can include punishment and the public stigma that should be associated with a criminal conviction;
IV. be proportionate to the nature of the offence and the harm caused; and
V. aim to restore the harm caused by regulatory non-compliance, where appropriate;
VI. aim to deter future non-compliance.

-Can you give example of strategies which are developed in general or for pig farming sector:

For instance:
-Self monitoring (example Latvia)
-Self inspection (example Utrecht)

-Annual report from company that is basis for inspection (example Sweden/Italy)

In general	Specific for pig-farming sector
Other IPPC sectors with Emission Limit Values (ELVs) specified in their permits submit monitoring results to Environment Agency.	Pig Sector is not subject to any specific ELVs. For ammonia emission reductions, IPPC farms may be responsible for identifying how they can reduce their own emissions and for implementing the necessary changes to plant or management procedures.
All IPPC sectors are subject to a form of Operator Performance Appraisal (OPRA score) which varies their subsistence charge. It is based on a number of variables such as size, complexity, location, compliance results and enforcement history	Where they have shown a history of compliance they are eligible for an IPPC inspection by Farm Assurance Scheme auditors and benefit form a reduced frequency of inspection by the Environment Agency and a reduction in their annual subsistence fee (currently the reduction is £880 per year)
Details about the pig farming sector and Farm Assurance Schemes can be found via this link- http://assurance.redtractor.org.uk/rtassurance/farm/pigs/pg_about/benefits.eb	

- *If yes, how will they contribute to achieving the inspection targets? (also question or topic for workshop)*
-

Answer:
Where they have qualified for an annual inspection by a Farm Assurance Scheme the results of these inspections are submitted online for a desktop assessment by the Environment Agency who will then only inspect them every 3 years

1d Planning and review

-Does your organisation develop a site inspection plan?

Answer: Yes
Identifying environmental outcomes is done at a local level. This is based on evidence from local monitoring for surface water and groundwater quality, habitats, ecology, freshwater fisheries, bathing waters, shellfish etc.

Based on where an environmental improvement (outcome) is needed, the manpower resources are allocated from within the local areas to target inspections (to give advice, guidance or for enforcement) at those farms or industries which are considered to be contributing to the observed negative effects. As resources are not infinite, there may need to be prioritisation between which sites and/or area/catchments which are inspected.

-Does your organisation develop an inspection schedule?

Answer: Yes
Once a plan has been established there will be a schedule drawn up at a local level to deploy the resources available in a timely and manageable way to hopefully deliver the outcomes. As some outcomes will take several years to achieve, the plans and schedules may need to be revised or refined based on on-going analysis of monitoring data.

-Do you use "new technology (for instance, use of internet, specific software, programmes etc)

Answer:
Yes – We analyse the IPPC compliance data that is collected from our Compliance Classification Scheme software to identify poor environmental performers.
We also analyse data from our FARMS Integrated Regulation software to find results of compliance with the IPPC regulations, Nitrate Vulnerable Zones, Groundwater Regulations, Sludge to Land Regulations, Silage Slurry and Agricultural Fuel Oil Regulations, Agricultural Waste Exemptions,
Our National Incident Recording System can analyse data from complaints and pollution incidents which will also be considered when identifying issues and developing plans for addressing them.

All of these software programmes are internal and not accessible outside of the Environment Agency

An overview of confirmed pollution incidents nationally from the pig and poultry sectors is in the embedded attachment

Analysis of NIRS incidents for Pig Poul

(please attach examples if possible)

C.2. Execution framework

Objective
To find out what provisions, instructions, arrangements, procedures, equipment etc, are in place to enable inspectors and other staff to carry out inspection activities on the ground.

- Are protocols and working instructions or guidance specific for (pig) farms available (routine and non-routine inspections)?
- If yes please add examples or mention where to find on internet.

Protocols:	
Working instructions:	The operational instruction explaining to Environment Officers how to carry out an inspection of an IPPC farm  428_07.doc The operational instruction for inspecting a non- IPPC farm  468_05.doc For Biosecurity while inspecting a farm  88_04.doc
Inspection tools:	1st visit inspection form when inspecting EPR/PPC farm  1st visit assessment form 20071206.doc Farm assurance scheme module standards, and factsheet are available at - http://www.environment-agency.gov.uk/business/sectors/116186.aspx
Checklists:	Farm Assurance Scheme module checklist  Factsheet_-_Records_Checklist_for_IPPC
Guidance:	Weblink http://www.environment-agency.gov.uk/business/sectors/40059.aspx for guidance on how to; I. apply for a permit

	II. carry out reviews of Energy, Waste, Water and Raw Materials, and how to produce a; I. Site Management Plan, II. Site Layout Plan, III. Accident Management Plan, IV. Manure Management Plan, Weblink http://www.environment-agency.gov.uk/business/sectors/40069.aspx for guidance on I. How to comply with your permit, with appendices on; II. Manure sampling analysis III. BREF for pig and poultry housing, IV. Odour, Noise , Manure Management Planning, V. Undertaking a Housing Review, VI. Undertaking a Drainage Review, VII. Produce proposals for covering slurry stores VIII. Ammonia Emission reduction plan IX. Assessing dust control methods in poultry installations Weblink http://www.environment-agency.gov.uk/business/topics/permitting/36414.aspx for Horizontal guidance on; I. H1 - Environmental Risk Assessments, II. H2 - Energy Efficiency, III. H3 - Noise, IV. H4 - Odour, V. H5 - Site Condition Report Guidance, VI. H6 - Environmental Management Systems.

- On What topic do you need protocols, working instructions, guidance, inspection tools?

Protocols:	Odour Flies
Working instructions:	How to do an odour management assessment on poultry and pig farms How to do an fly management assessment on poultry and pig farms
Inspection tools:	The assessment of BAT for housing can be problematic.

	A simple tool is needed where the essential design and management aspects of a building could be entered into a spreadsheet and it's environmental performance could then be calculated to establish if it was operating at, and/or was acceptable as BAT. It is assumed that this will be in the revised BRef
Checklists:	
Guidance:	

Cooperation with universities/technical institutes.

-Is information from agricultural/technical universities available specific on topics for pig farming?

Answer:
When we are aware of relevant research it may be incorporated into guidance if appropriate.
The British Pig Executive (BPex) has information on its environment hub. This site contains updates from agricultural research facilities (including universities)
http://www.bpex.org.uk/KTRandD/environmentHub/default.aspx

-Do you cooperate with university?

Answer:
Yes, we aim to.

-On what topics?

Answer:
We have used Harper Adams University College to develop and deliver training on all agricultural regulation to Environment Officers (this includes IPPC inspections). This will enable officers to get agricultural industry recognised accreditation as professionally competent to regulate on farms.

-Is access to any advisory body or any other external, independent source of advice arranged?

Answer:
We consult with the Department for Environment Food and Rural Affairs Farming (DEFRA).
We also consult with trade bodies on guidance that we produce including the National Pig Association (NPA), British Pig Executive (BPex) and the National Farmers Union (NFU). We also have contacts with independent consultants such as ADAS who assist farmers in applying for IPPC permits and advising operators on housing design, ventilation, manure management systems etc.

Training

-Is training in agricultural permitting and/or inspection available? Please describe.

Answer:
Yes
We have an internal online training package which takes an Environment Agency officer through the inspection process on a site. We run training on managing pre-application discussions with farmers

and also permitting training for permitting officers.
There are also regular national training days for staff covering inspections, compliance, permitting and enforcement issues.
We have also developed an accreditation scheme with Harper Adams University College which will allow Environment Agency officers to be instructed on farming processes to enable them to make objective assessments while carrying out their inspections

IT systems

-Do you use special IT systems/ IT tools for inspection and/or permitting in pig farming sector?
-Please describe short or give examples?

Answer:

We have a national FARMS IT system for use during on-farm inspections. All relevant regulatory regimes are inspected in one visit and the outcomes recorded on an Integrated Inspection Form. This can then be analysed to produce national or regional reports on compliance with any of the regulations relevant to farming.

C.3. Execution and reporting

Objective
Find out how routine and non-routine inspection activities are carried out and reported and how data on inspections carried out, their outcomes and follow-up is stored, used and communicated.

-What administrative and legal sanctions are available to your authority in cases of non compliance?
For instance:
fine
Closing farm
Stopping the activity yourself (on costs of offender)
(Temporary) less animals
warning

Please fill in box.

	Yes/no	**Please describe also shortly a case:**
Administrative Fine(example)	**yes**	**(Example)** **In a case we counted 12000 pigs in stead of 10.000 pigs that were allowed in pig farm. We used administrative fine to reduce animals. It came to court case, case was won.**
Administrative Fine	**No**	
Closing farm:	**No**	

Stopping the activity yourself (on costs of offender)	**Yes**	We can seek an injunction in extreme cases where pollution is occurring. We can clear up a pollution ourselves and recharge the operator responsible
withdraw the permit	**Yes**	A permit can be withdrawn/revoked but this would only be considered as a last resort
criminal court case	**Yes**	In a hierarchy of enforcement • the lowest sanction is to issue a warning letter • next is to offer a 'formal caution'. If an operator accepts this then they do not go to court but they do admit to the offence • Finally we can take a prosecution in either a magistrates court or a crown court (depending on the severity and complexity of the case)
Environmental penalty charge	**No**	May be an option in the near future under Civil Sanctions
Issue a Notice	**Yes**	We can issue a works notice for improvements/remediation to be implemented. They are very specific about exactly what needs to be done and the timescale for doing it.

Inspection data

-Is a system available to collect and store data?

Answer:
Yes – FARMS and CCS systems
The Compliance Classification Scheme (CCS) records all breaches at permitted sites and awards a score based on the severity of any breaches. These scores are used to calculate the annual subsistence fees that a farm will pay. Good operators pay less than poor operators. The system can also be used for running reports detailing levels of compliance nationally and regionally.

-Digital or paper?

Answer:
Digital (or paper if an Environment Agency Officer chooses to use a hard copy during an inspection)

-Is there information about performance-indicators available in IT system?

Answer: Yes

C.4.Performance monitoring

Objective Find out how the environmental authority assesses its performance and the environmental and other outcomes of its activities.

-Is an evaluation of the outcome of inspection activities made?

Answer: Yes – permit conditions breached, reasons for breach, severity of breach, CCS criteria breached, remediation required, enforcement outcome (warning letter, prosecution etc)

-If yes, what performance indicators are used? For instance:

- Use of BAT
- Complaints
- Amount of emissions
- Type of emissions (ammonia, odour)
- Distribution of emissions (to air, water, soil)
- Percentage of offences made
- Type of offence

Note: We realise there is some connection with "targets" in 1.c, therefore we copied the same boxes.

Quantitative performance indicators

Please give examples of quantitative performance indicators that you use and that should be used
Pleas add as much as possible

	We use this target	We should use this target	We don't use this target
Hours	√		
Number of inspections	√		
Number of inspection reports			√
Number of permits			√
Percentage of permits within allowed "procedure-time"			√
Average time spending on inspections	√		
Average number of inspections for each person in the inspection staff		√	
Percentage of inspections within allowed "procedure-time"			√

Number of complaints	√		
Amount of emissions			√
Percentage off offences made.	√		
.....			
.....			
.....			

For qualitative targets please take notice of the model we used in report form first pig farming project:

Qualitative performance indicators
Please give examples of qualitative performance indicators that you use and that should be used
Please add as much as possible
Keep also schedule on page in mind.

	We use this target	We should use this target	We don't use this target
Complaints (qualitative)	√		
Accidents	√		
Technical improvements/BAT			√
Type of emissions (ammonia, odour)			√
Increasing the ground water quality	√		
Decreasing the consumption of water			√
Decreasing the consumption of energy			√
Distribution of emissions (to air, water, soil)			√
Type of offences			√

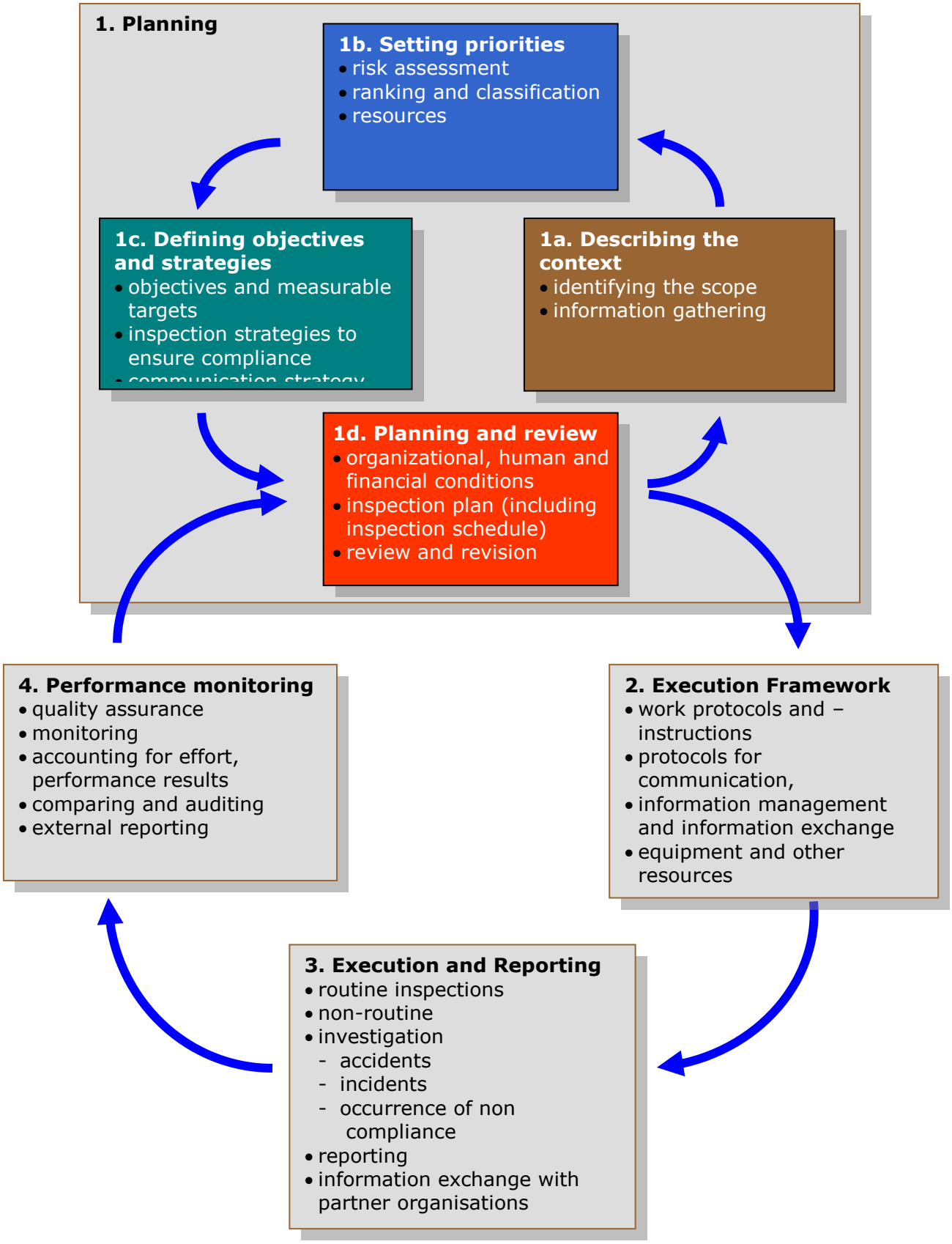
-Can you identify other problems concerning the inspection of pig farms?

Answer:
The determination of what is BAT due to many different building types/designs and slurry systems.

We want to thank you very much for finishing this questionnaire. The results will be discussed in the next project team meeting on 16th and 17th of June and off course in the workshop in September/October.

Tiago, Paula, Annelies, Manuela, Helene, Maria, Fausto, Judite, John.

Annex I - Environmental Inspection Cycle from the IMPEL “Doing the right things” Guidance Book



Annex 2: Meeting Invitation and Programme

Utrecht September 2011

Dear participant,

Also on behalf of the project team, I am very pleased to invite you for the workshop of the IMPEL project Improving permitting and inspection of IPPC pig farming installations by developing practical guidance.
The workshop will take place on September 28th and 29th in Hotel Mitland in Utrecht in The Netherlands.
In 2009 a comparison programme on permitting and inspection of IPPC pig farming installations in IMPEL member countries was carried out. The project focused on five key issues: manure storage, manure spreading, animal housing system, air-abatement systems and odour assessment. The aim of the project in 2009 was to learn from each other, to exchange experiences and identify good practices. The final project report showed that competent authorities in IMPEL member Countries Member States regulate pig farms in many different ways. The project report concluded that a further exchange of information between IMPEL members is important and the development of practical guidance for permit writers and inspectors would be desirable. The reports are available on the IMPEL website: www.IMPEL.eu.

This project in 2011 builds on the previous project and aims at producing practical tools to support the permitting and inspection of IPPC pig farms. The objectives of the project and the workshop are to:

1. **Collect more in depth information on permitting and inspection practices related to IPPC pig farming**
2. **Assess common problems and needs for guidance,**

This will be done by:

- **discussing the results of the questionnaire**
- **exchange information about current practices in pig farming inspections in the different member states.**

After the workshop (also in 2012) practical tools and guidance to help authorities improve regulating IPPC pig farms will be developed.

We are looking forward to the workshop, work together and learn from your expertise. Hope to see you soon!

John Visbeen LLM MA
Head of department Province Utrecht,
Project leader IMPEL project on pig farming.

Information for workshop:

Start from programme:

First I have to explain something about the start of programme:
While making preparations we scheduled from 09:30 on Wednesday. Tiago and Annelies noticed problem in programme. On the registration form was mentioned that the program starts at 13:00 on 28th of September. We found a solution:

I checked flights:
There are 22 participants,
16 will arrive at Tuesday 27 th,
3 will be able to arrive before 11:00 on Wednesday 28th,
3 will be able to arrive around 12:00 on Wednesday 28th.

Therefore we decided to start on Wednesday 27th at 10:00 with some more ”light” introduction items from the province Utrecht and organisation of enforcement and licensing in the Netherlands; We will start “real” workshop at 11:00 hrs. and have the more general topics before lunch. During the afternoon we take enough time for our guest-speakers.

I am sorry for this mistake, and for the ones who arrive on Wednesday:, please don’t hurry and just take your time to get safe in Utrecht! I will give you short summary of mayor topics if necessary.

Hosting Organization:
Province of Utrecht, Netherlands

Site of the meeting:

Mitland Hotel Utrecht
ARIËNSLAAN 1
3573 PT UTRECHT
THE NETHERLANDS
TEL +31 (0)30-2715824
FAX +31 (0)30-2719003

www.mitland.nl

Mitland Hotel Utrecht - How to get there by public transportation

FROM AMSTERDAM SCHIPHOL AIRPORT TO UTRECHT
(The railway station is in the central hall from the airport)
• There is a train leaving for Utrecht Central Station about every 15 minutes
(travel time about 35 minutes)

FROM UTRECHT CENTRAL STATION TO HOTEL MITLAND

When you are in big hall of station Utrecht, walk in direction of Hoog Catharijne shopping centre, (definitely NOT in direction of Jaarbeurs),
After few meters before shopping centre really starts, there is door to the bus stops for "stadsbussen", Go down the stairs,

You can buy ticket in bus.

• Bus number 11 direction: De Uithof / AZU; Departure time: every 10 minutes
• Bus-stop '**Oorsprongpark**' (I think it is about 5th stop after about 10 minutes or less)
• Cross the railway crossing
• First street to the left (Buys Ballotstraat)
• Turn right at the end (Cornelis Houtmanstraat)
• Straight on under the fly-over (Ariënslaan)
• Hotel Mitland is on the right after 50 meters

Travelagent:

VCK Travel B.V.
Phone: +31 70 3705555
Fax: +31 70 3705556
E-mail: denhaag@vcktravel.nl
Website: www.vcktravel.nl

Our contact person from travel agent is Marleen Nijhuis.

Dinner on Tuesday September 27th

Because some of the guests arrive on 27th we can have dinner together, This will not be covered by IMPEL budget. We can meet 19:00 hours in the lobby of Hotel Mitland,
We will see who will join us.

Any other business:

If there is any question don't hesitate to call me on 0031-6-18300452

Programme

Notice that each session ends with question if a tool or guideline should be developed

Wednesday 28 September		
Time	**Subject**	**Organization**
09:30-10:00	**Registration and coffee**	
10:00 - 11:00	Welcome greetings of Province Utrecht, organisation enforcement and permitting in Netherlands, IMPEL presentation, on-going projects	Province Utrecht/John
11:00-12:00	Doing the right things-approach, Results questionnaire	John/Annelies
12:00-12:30	IED – BREF - TWG (information/developments)	John/Annelies
12:30-13:15	**Lunch break**	
13.15-14:45	KTBL Tool, by Mr Ewald Grimm	Annelies
14:45-15:00	**Coffee break**	
15:00-16:00	Batfarm project, Project on measuring (air) emissions – cooperation with University –output form models should be input for describing the context and setting priorities	Tiago
16:00-17:00	Online training, Ian Skinner (possibly also ideas/relation LinkedIN)	Manuela
17:00-	**Snack**	
17:30-18:00	Risk assessment tool (cooperation IGAOT and Netherlands: risk assessment database)	Tiago
18:00-18:30	Measurable targets, define smart objectives an smart targets; also in connection with BREF	Maria
18:30-19:00	Presentation of Estonian tool, integration of resources	Judite
20:00	**DINNER**	

Thursday 29 September	
Time	**Subject**
9.00-09:30	Summary and conclusions first day
09:30-10:30	Blok one: Two groups-carrousel. Case study flies (Manuela) Case study energy efficiency (Judite)
10:30-10:45	***Coffee break***
10:45-11:45	Blok two: Two groups-carrousel. Case enforcement action/overstocking (John) Case study phosphorus problems according to storage and spreading (Vincent)
11:45-12:00	***Coffee break***
12:00-12:30	Summary of on-going court cases on national and European level (Vincent)
12:30-13:15	***Lunch***
13:15-15:00	Round table: meeting conclusions, guideline contents (who do what), make decision in tools to be developed, connection TWG en project, role IMPEL to add value in BREF process, further meeting
15:00	*End of programme*
19:00	**DINNER**

Annex 3; results of workshop 2011

European Union Network for the Implementation and Enforcement of Environmental Law

Improving permitting and inspection of IPPC pig farming installations by developing practical guidance

First Draft version guidance, November 2011

Notification: In this booklet hyperlinks are made to the IMPEL Basecamp network. To access this network you need a login and password. Please contact your national coordinator.

To **see the presentations** quickly, you can click the hyperlink in this booklet. After this you have to log in. Copy the address in the hyperlink and paste it in the location bar above after you've logged in. This will bring you to the document directly. Of course you can also look it up under the files (click under "your projects" on the right side of your screen on: improving-permitting-and-inspection-of-ippc-pig-farming-installations. Click on files. Look for the document.)

To **print this booklet**, you have to print back and front sided. Also select in your advanced printer settings the binding edge as *short* edge. The document is already set as an booklet, so you don't have to change any more settings, just press print.

Content

1. Introduction about the project
2. Looking back at the first piggeries project
3. Doing the right things method
4. Questionnaire and results
5. Workshop impression and lessons learned
6. Workshop subject: KTBL tool
7. Workshop subject: Bat-farm project
8. + 9. Workshop subject: Risk assessment database + Estonian database
10. + 11. Workshop subject: Online training tool + flies tool
12. Workshop subject: Energy efficiency
13. + 14. Workshop subject: Phosphorus problems + court cases
15. + 16. Introduction to linked In group + overstocking example
17. Model

1. Introduction about the project

Goals of the project

1. Collect in depth information on problems or challenges related to IPPC pig farming.
2. Provide the IMPEL members inventory of good examples and permitting and inspection tools that already have been developed in member states.
3. Inventory of need for common guidance that should be developed.

PM (John)

2. Looking back at the first piggeries project

In 2009 a comparison programme on permitting and inspection of IPPC pig farming installations in IMPEL member countries was carried out. The project focused on five key issues: manure storage, manure spreading, animal housing system, air-abatement systems and odour assessment. The aim of the project in 2009 was to learn from each other, to exchange experiences and identify good practices.

The final project report showed that competent authorities in IMPEL member Countries Member States regulate pig farms in many different ways. This is both true for installations above and below the threshold in the IPPC directive. There is, for instance, a variety of systems on manure storage and on animal housing. IPPC permits issued by the Member States vary in their level of detail. Inspections vary in intensity and frequency.

The project report concluded that a further exchange of information between IMPEL members is important and the development of practical guidance for permit writers and inspectors would be desirable.

This project builds on the previous project and aims at producing practical tools to support the permitting and inspection of IPPC pig farms.

3. Doing the right things method

This inspection project is based on the Doing the right things method developed earlier under IMPEL. The guidance book can be downloaded from the public IMPEL website. The goal of the guidance book is to help inspection organisations with the implementation of minimum criteria on environmental inspection planning.

The guidance book takes as starting point the Environmental Inspection Cycle, which consists out of the following seven steps:

1. Describing the context
2. Setting priorities
3. Defining objectives and strategies
4. Planning and review
5. Execution framework
6. Execution and reporting
7. Performance monitoring

In the questionnaire, questions were asked specific for pig farming. This resulted in an overview of tools used by different countries to perform the steps above.

For instance the Risk assessment database from Portugal, the online training tool from UK and the execution and reporting tool from Estonia.

4. Questionnaire and results

In the spring of 2011 a questionnaire was sent out to the IMPEL piggeries participants.
The questionnaire followed the structure of the Doing the right things method. By filling in the questionnaire the participants also performed a review about the present permitting and inspection practices within their organisation. All the questionnaires can be found on Basecamp, there is also one excel document with all the combined answers.

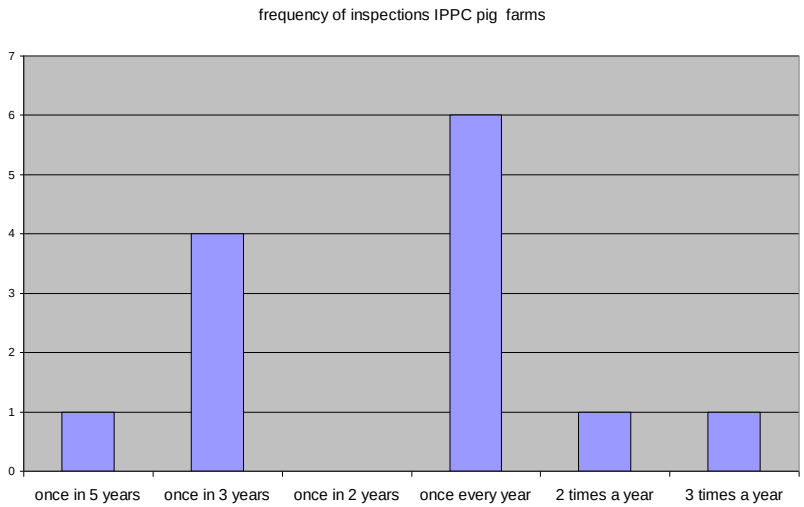
The questionnaires came up with some interesting results. It showed a great variety of tools and models used by all the countries, but also some need for guidance and problems that are hard to solve.
There is need for more guidance like:

- How to work with the Bref
- Inspection guidance in case of complaints
- How to do an odour management assessment
- How to do an fly management assessment
- Assessment of BAT for housing
- Inspection instruction specific for pig sector

Problems that came up are:

- The determination of what is BAT due to many different building types/designs and slurry systems
- As there is no ELV, it is difficult to establish quantitative targets and performance indicators.
- difficult to validate/confirm the actual numbers of pigs on farms due to the differing stages of production; different pig weight ranges, etc
- different responsible inspections, need for improvement of exchanging data
- Behaviour of pig farmers, most of them are independent. Not educated.
- Sector economical situation

The entire presentation can be found on Basecamp.



Picture: slide from presentation questionnaire results

5. Workshop impression and lessons learned

On 28th en 29th of September the workshop was held in Utrecht, The Netherlands. 29 Participants attended the workshop. The program started with information about the new IED and the Bref process. This presentation can be found on the Basecamp network. During this presentation, most interest was shown in the review of the commission to extend the Bref with intensive rearing of cattle and manure spreading. It is clear that information about this review will be well appreciated in the future.

Next in program the more detailed subjects were presented. On the next pages more information about these subjects can be found. All the presentations held during the workshop can be downloaded from basecamp.

The workshop was completed with discussions in small groups. From the workshop and the small group discussions, some lessons can be learned. The lessons are also interesting for the technical working group for the Bref. These lessons are:

- Using the Bref is very difficult in practice. A whole farm approach is better then just looking at one part of the farm, but clear boundaries are necessary.
- In the Bref, ranges for energy use, water use etc are given. These ranges are very wide and it is not clear what's realistic for one region. It would be better to have more specific numbers based on circumstances (like temperature in summer/winter, rainfall, geography etc).
- Scoring of BAT and info on positive and negative effects of each technique will be useful in practice.
- A lot of guidance is already available. Find a way to share this information.
- Inspectors feel the Bref is not written for inspectors. When farmers don't comply with the permit it is hard to see for inspectors that the farm at least complies with the Bref.
- It is concluded that regional differences can be defining for what is BAT. Suggested is to take different reference systems for different regions.
- Pathogens and aerosols are becoming a problem in more and more countries like Scotland and Germany. The public is nowadays more interested in the health risks of pathogens from farming. Health risks from pathogens should be part of the BAT assessment. Restrictions in spreading methods in the Bref are suggested.
- A more transparent presentation of why techniques came out as BAT is a big wish.
- Drinking systems are mentioned in the Bref for poultry, but not for pigs, though the drinking system for pigs is very important for the manure composition.

6. Workshop subject: KTBL tool

Ewald Grimm from KTBL in Germany presented the BAT-Support Tool.

The tool is developed by experts from 9 different countries. One of the targets of the BAT-support project is to establish a transparent assessment system to classify different techniques in terms of BAT. The system takes into account environmental, economic and ecological aspects as well as animal health and welfare. The basic idea is that it's a simple (based on Excel), structured and comprehensive assessment and rating system, related to the different stages of production. The

system considers cross-media effects and evaluates against a reference system. You can use quantitative data, but if not available, qualitative data can be used to.

Indicator	Technique module	Emission relevant factor	Factor specification	rating	Reference	Assessed system
Ammonia / Odour	**Building construction / ventilation system**	… rising indoor temperature level	low – outdoor induced climate, natural ventilation	0		**0**
			medium – insulated housing, forced ventilation	1	**1**	
			high – uninsulated housing, forced ventilation	2		

Table 1: Example. More elaborate examples can be found in the presentation in Basecamp.

Another goal of the BAT-support project is to prepare a „Glossary of Terms on Livestock Manure Management". This glossary can be found on Basecamp as well.

7. **Bat-farm project** - Best Available Techniques to decrease air and water pollution in animal Farm's

In order to assess the effect of a range of Best Available Techniques (BAT's) for reducing the environmental impact of livestock operations in air (greenhouse gases and ammonia) and water (pathogens, nitrate content) and knowing that these environmental impacts have variations in emissions among EU countries depending for instance, from the animal production systems, feed types, skills of the farmers, technologies and environmental conditions, different partners get together for a four year project. These partners are: ITG Ganadero, Spain, Johnstown Castle, Ireland, Cemagref, France, Instituto Superior de Agronomia, Portugal and Glasgow Caledonian University UK.

According to the project leader, Pilar Merino and the Portuguese members Elisabeth Duarte and Rita Fragoso present in the workshop, the work started in 2010 with the kick-off, the choose of the farms that will cooperate with the project and with the monitoring protocol harmonization.
Several BAT's will be monitored in pig farms and the expected outcomes are the increased knowledge of the mitigation potential of techniques that can reduce the environmental impact of farm housing and manure management systems. In 2013 will be ready a Decision Support Software Tool which can assist farmers and policy makers with decisions on appropriate environmental techniques for several farming systems and environments
A project to be followed in http://www.batfarm.eu/
The presentations can be found in Basecamp: presentation 1 and presentation 2.

8. **Workshop subject: Risk assessment database**

One of the results from the cooperation agreement between the Dutch Inspectorate of Housing, Spatial Planning and Environment and the Portuguese Environment and Spatial Planning Inspectorate was the development of the risk assessment database. As a good example of international cooperation the Portuguese risk assessment tool was established in 2009 in line with the recommendation for minimum criteria for environmental inspections (RMCEI) and with the industrial emission directive IED.
Also from good practices learned from the Irish example and starting from the four foundation elements, criteria, scoring system, weighting factors and of course the Dutch database, this tool was set for the Portuguese experience. With the inputs from the PRTR data and from the inspection's results it grants to head the available resources to higher risk activities, setting clear priorities. The first results, from instance, from the last multi-annual target - environmental performance evaluation of IPPC facilities – shows the expected results. The Presentation can be found on Basecamp.

9. **Estonian database**

Estonia presented their inspection database. This database is not only used as data storage, but can also be used to make inspection reports and make a selected output for website publication. Other purposes are that it can be used as an analytical tool (possibility to place data on map etc) and contains procedures of inspections.

10. **Workshop subject: Online training tool**

Inspectors from all member countries that filled in the project questionnaire concluded that there is a continuous need of training.
The Environment Agency from England managed to develop software of on-line training under the rights protection. The programme was designed for farming industry and includes legal and practical information about how an integrated inspection should take place.
Development of such a programme might imply some costs from interested organization, but in time costs will be less expensive than other type of trainings and it's accessible for inspectors whenever they need to refresh their knowledge.

11. **flies tool**

Two member countries (England and France) expressed in questionnaire their concern regarding flies problem around the intensive farming areas.
England drafted some guidance on this topic. A fly management plan was drafted; the plan describes methods to asses fly risk (routine monitoring, trigger levels, likely cause) and control methods (management methods, biological methods and chemical methods). The plan also addresses to manure management issues in order to avoid a "flies friendly" environment (storage, cleaning of pits and drainage systems) and to carcass and incinerator management. The presentation is available on Basecamp. A case from 2011 can be found on the website of the UK Environment Agency.

12. **Workshop subject: Energy efficiency** (link with other IMPEL project) + **example England**: http://www.environment-agency.gov.uk/business/topics/permitting/36414.aspx (see H2).

13. **Workshop subject: Phosphorus problems**

The questionnaires revealed that farming contributes in phosphorus problems. Vincent de Barmon from France presented his experience in Quebec and France with phosphorus modelling (f.i. ODEP Diagnostic tool for phosphorus output and France: Territ'eau) and research results. Also some treatments are suggested. There can be concluded that there are many means to improve P management. During an exhibition (2011) for farmers, around 20 posters where shown in Brittany.
We can summarise these means in two categories:

- Short term means: Agricultural practices & catch infrastructures
- Long term means: P stock increasing prevention = P balance

The proceedings of the presentation can be found on Basecamp.

14. **Court cases**

France presented an overview of their national court cases. This gave an idea of the type and amount of offences within pig farming, the level of the fines and the type and amount of offences that end up in court. The presentation also compares pig farming with all installations and with all agricultural offences. The main concerns within pig farming are: quality of the EIA, manure spreading, nitrogen and phosphorus management. See the presentation on Basecamp for more information.

Prosecution in pig farms	
Year	Number of prosecutions
2007	10
2008	18
2009	13

15. Introduction to linked In group

One of the conclusions of the project work-shop was that exchange of information between IMPEL project participants is important in the context of harmonization of inspection and permitting practices.

We identified two possible ways of on- line exchange of information:

- IMPEL basecamp- online project collaboration tool (https://impeleu.basecamphq.com/login)- access is restricted to persons who are directly involved into a project;
- LinkedIn (http://www.linkedin.com) - business related social networking site- it's free and open for anyone to make an account.

In order to use more easily LinkedIn network, we created a project group named "European Network for environmental license and enforcement in pig farming sector". The group is owned by project leader.

16. Overstocking example

An example that can be put on linked In or other communication method.

Overstocking is a problem that occurs in every country. The way we handle this can be different. During the workshop The Netherlands presented a case of overstocking. In reaction on this case other methods were discussed. A discussion like this can also take place on a (private) internet forum, like Basecamp, linkedIn or Facebook. This way we can learn from each other methods.

17. Model Vincent

See page 52

Back page

picture: project team at Portuguese pig farm

Annex 4: Draft Programme Workshop 2012

Draft programme Pig farm Workshop:

Wednesday 7 November 2012,
13:00 lunchtime,
14:00 start of workshop, welcome with small video tour (John)
14:30 adoption of agenda,
14:45 start of story-telling part, (12 presentations-workshop participants)
17:00-18:00 more evaluative questions according to meaning of guidance,
19:00 dinnertime,

Thursday 8 November 2012,
09:30 start, and back ground information of structure of guideline, more activity based way of looking,
10:00 first round 5 smaller working groups, discussing chapter of guidance,
11:00 coffee break,
11:30 second round 5 smaller working groups, discussing chapter of guidance,
12:30 preparation of inspection part with whole group, (this is also chapter in guidance)
13:00 lunchtime
14:00 Bio-gas item / methanisation / more technical presentation
16:00 coffee break (and finish presentation from smaller working groups)
16:30-17:30 discussion how to use the guidelines, (part 1),
19;00 dinnertime

Friday 9 November 2012:
9:00 Presentation of smaller groups and adoption of guidelines,
11:00 Coffee break
11:30 How to use guidelines discussion
(part 2: conclusions and recommendations to IMPEL)
12:30. Conclusions and end of workshop,
13:30 Lunchtime