

## 供上海市 环境保护局参考文件

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环境机构[英国]终于认识到、与公众沟通和咨询是、他们工作中的一个必要因素、特别是在处理一些复杂和有潜在争论的问题上。

The Environment Agency has belatedly recognised that communication and consultation are an essential element of its work, especially when it is dealing with complex and potentially controversial issues.

## 自水泥窑获得教训的详情

## Learning Lessons from the Cement Kilns Saga

### 概要 Summary

[英国]环保机构〔以下简称(本机构)〕遭到社区、环保团体、以及[英国]下议院环境委员会[以下简称(委员会)]的强烈谴责、关于它对水泥窑燃烧、自废溶剂里再造出的液体燃料所持的态度。可是来自海外的可靠证据、甚至本机构自己的数据、也表明那是处置这些废料的、最符合实际的环保选择、委员会自己也认为现行的法规制度对排气的限制已足够、并且使用废物燃料、对水泥业和溶剂再造业会有经济得益。本文旨在略述水泥业使用再生液体燃料的历史、和对环境影响的科学根据。同时探讨本机构对委员会指责的回音。

The Environment Agency (EA) has been strongly criticized by community and environmental groups and by the House of Commons Environment Select Committee over its approach to the burning of secondary liquid fuels, derived from waste solvents, in cement kilns. Yet reliable evidence from abroad, as well as the Agency's own data, indicate that this is the best practicable environmental option (BPEC) for these wastes, while the Environment Committee itself recognized that existing regulatory regimes and emission limits are adequate and that there have been economic benefits to the cement and solvent recovery industries from the burning of waste-derived fuels. This article outlines the history of secondary liquid fuels in cement manufacture and the scientific evidence on its environmental impacts. It also examines the Agency's response to the Environment Committee's criticisms.

今年较早时、本环保机构被下议院环境委员会严厉批评、关于它们对水泥窑使用被我们称作二手燃料【注：见下面注解】(SF)的态度。据委员会说本环保机构的手续及拙劣的处置手法、且由于前身为皇家污染监查处、在很大地程度上对水泥窑使用二手燃料、所引起公众疑虑要负上责任。【注：二手燃料是指经过提炼的废物燃料】

Earlier This Year, the Environment Agency (EA) was slated by the House of Commons Environment Committee over its approach to the burning of what the Agency terms secondary fuels (SF) in cement kilns. The Committee said that poor procedures and clumsy handling on the part of the Agency and, formerly, Her Majesty's Inspectorate

of Pollution, were largely to blame for the poor public perception of the burning of SF in cement kilns.

委员会对本机构的批评是：对监查和数据分析有“严重的不足”、风险评估的方法自相矛盾、效率低、并缺乏远见。也指责机构的稽查人员“自动相信”工业界所说的。

The Committee criticised the EA for "many serious inadequacies" in monitoring and data analysis, inconsistent application of risk assessment methodology, inefficiency, and lack of foresight. It also accused Agency inspectors of "automatically believing" what the industry had told them.

本机构方面对报告作出积极的回音、并且接受12点方案中的26条建议 - 并且也决定今后更开放并且改善沟通、特别是与社区及当地的媒体。在回复中、机构内环保部门的 - 大伟·斯莱特博士说：“本机构认为可取的行动、会导致坚定和更一致的、规范水泥工业的法规。我们希望那样做会避免公众对水泥业的恐惧 - 特别是对燃烧废物燃料方面。本机构肯定会以严格的法规、来保证环境与公众双方都得到保护。并且保证今后对这些问题会咨询公众、咨询中对所产生的疑虑一定会加以考虑。

The Agency has responded positively to the report ' and has accepted many of its 26 recommendations through a 12 -point programme (see box) -It has also resolved to be more open and to improve its communications, especially with the public and local media. In issuing the response, Dr David Slater, director of environmental protection at the EA, said: "The actions which the Agency has identified will lead to stronger and more consistent regulation of the cement industry. We hope that this will help alleviate public concern over the industry - in particular the burning of waste fuels. The Agency is committed to strong regulation to ensure that both the environment and the public are protected. It will also ensure that the public is consulted on these issues and will consider concerns raised during this consultation."

政府方面则以发表报告- 环境委员会的报告 - 作出对辩论的回复、针对该报告中对本机构的批评。政府说那是“深切关注到委员会是应该感到有必要作出那些批评”。环境部长、米高·民秋、寻求并且得到本机构的保证、他们会对控制工业污染必定尽力以赴、“抱有很大信心会对国会和公众不负所托”。

The Government has contributed to the debate with the publication of its own response- to the Environment Committee's report, focusing on the report's criticisms of the Agency. The Government says that it "is deeply concerned that the Committee should have felt it necessary to make such criticisms". The Environment Minister, Michael Meacher, has sought, and obtained, Agency assurances that it is committed to controlling industrial pollution "in a manner which will command the full confidence of Parliament and the public".

但是、本机构对委员会的某些批评并不接受、特别是在数据、监控与分析、还有稽查人员的独立性、并且为水泥窑燃烧二手燃料(SF)对环境的影响没有比燃烧煤炭更坏的说法辩

护。本机构相信我们有证据可反驳委员会作出的苛刻批评、而且他们认为在某些地方、事实是被曲解了、主要的问题被误解了。

Nevertheless, the Agency rejects some of the Environment Committee's criticisms, particularly over its data monitoring and analysis and the independence of its inspectors, and it defends the burning of SF in cement kilns as being no worse, environmentally, than burning coal alone. The Agency believes it has evidence to counter the strongest criticisms made by the Environment Committee, and it considers that in some instances facts have been misinterpreted and key issues have been misunderstood.

## Two decades of evidence 二十年的证明

约莫在二十年前、美国的水泥厂家和废物制造者、假借二手燃料来解决两个问题：废物业需要一个、除了土壤堆填和焚化炉之外的选择、来处置废弃的溶剂、另一方面水泥业则需要减轻它的能源成本。

About 20 years ago, cement manufacturers and waste producers in the US turned to SF to solve two problems: the waste industry needed an alternative to landfilling and incineration for the disposal of waste solvents, while the cement industry needed to reduce its energy costs.

实验开始时是为了保证在水泥厂里、混合燃烧煤与二手燃料时、对环境的风险、不会比净燃烧煤的为高。通常的习惯是混合传统的燃料 - 如煤炭- 大概参入百分之三十至四十的二手燃料(SF)。得出的结果显示在水泥厂燃烧(SF)时的排气没有增加、好多时、反而是减少了、这个做法提供了额外的收获、减少因堆填和焚烧所引起的、对环境的影响。更有甚者是、使用(SF)显示了对水泥的生产的过程起稳定作用。

Trials were begun to ensure that the environmental risks posed by burning a mixture of coal and SF in cement manufacture were no greater than burning coal on its own. The common practice was to mix a conventional fuel - such as coal - with around 30% to 40% of SF. The results showed that burning SF did not increase emissions and, in many instances, reduced them, while the procedure offered the added benefit of reducing the environmental impacts associated with landfills and incinerators. Furthermore, it became apparent that the burning of SF stabilised the process of cement production.

早于八零年代、处于对二恶英的恐惧中、环保团体[NGO = Non Government Organization]开始发动群众反对使用SF、因此美国环保部作出反应、进行更多的、对于水泥厂的排气和尘埃(CKD=Cement Kiln Dust)所带来的风险的研究。

In the early 1980s, amidst fears over dioxin emissions, environmental groups started campaigning against the use of SF, so the US Environmental Protection Agency (EPA) responded by doing more research on emissions and on the risks posed by cement kiln dust (CKD).

整体来说、美国的数据说明水泥窑燃烧废物燃料、比起煤炭较为干净。“根据美国的数据、于34个水泥窑进行的、能否符合法规的测试、压倒性地显示水泥窑的功能、可安全地销毁有机、可燃的废物、而且从那些废物里回收到能源。测试到的废气排放大小低于美国环保部的规定”，大伟·高士曼先生这么说(高士曼顾问公司) [注：高士曼是“纪元科技集团有限公司”的首席科学家]、他也是一位水泥业专家、对另类燃料有深厚的经验。

On the whole, the American data show that waste fuel burns cleaner than coal in cement kilns. "The data from the US certification of compliance tests conducted in 1992 on 34 kilns overwhelmingly demonstrates the effectiveness of cement kilns to safely destroy organic, combustible wastes and recover the energy in these wastes. Measured emissions are generally orders of magnitude below US EPA limits," says David Gossman of Gossman Consulting Inc (GCI), a specialist in the cement industry with extensive experience of alternative fuels.

废气排放中所含的些微金属和二恶英、在此地和海外、都没有一个清晰的标准。不过、由于排放的水平极低、不容探测到有任何静止的重大分别。

The data for emissions of some trace metals and dioxins, both here and overseas, do not appear as clear cut. However, this is because the levels emitted are so small it is difficult to detect any statistically-significant differences.

按照美国空气与废物管理协会的空气污染手册、使用SF作为水泥窑的燃料与原材料、是一种已经证实可信赖的科技、提供一种经济、安全并且对环境合理的、从许多不同种类的、危险和无危险的废物中、回收资源的方法。手册中指出水泥窑有多个重要的特点：高温；恒温、多湍流；造成一个硷性的环境可抗拒酸性；那是对烧结块(熟料)有用的质地、使得潜在的污染物更牢固黏结。

According to the US Air & Waste Management Association's (A&WMA) Air pollution control manual, the use of SF as a fuel and a raw material in cement kilns is a reliable and proven technology, offering a cost-effective, safe and environmentally sound method of resource recovery for many types of hazardous and non-hazardous wastes. The manual states that cement kilns have several important features that contribute to the effective destruction of waste materials: high residence times; high temperatures; thermal stability; lots of turbulence; an alkaline environment as an acid buffer; and the useful property of cement clinker to bind and immobilise potential contaminants.

## Benefits of SF for cement 二手燃料(SF) 对水泥的益处

有许多数据表明使用SF能令水泥业得益。二手燃料的燃烧比煤炭更易控制、那就意味着生产更加稳定。环境的得益是它可以减少、所谓的“跳制”的现象、那就是当一氧化碳在水泥窑内集结到一定程度时、为了安全起见、静电冲击器会闪时关闭。其结果是会排放出一股未经处理的微粒。

There are lots of data to show that the use of SF can benefit cement manufacture. Secondary fuel combustion is easier to control than that of coal, which means that production is more stable. The environmental benefit of this is that it decreases the chances of so-called "trips", which occur when carbon monoxide accumulates in the kiln and, for safety reasons, the electrostatic precipitators are momentarily turned off. This results in a puff of untreated particulate emissions.

另外的得益是、SF 所含的氯元素会降低烧结块(熟料)的硷性。“硷会使水泥脆弱、因此我们得加氯元素在原料的成份中把它(硷)除掉。事实上、在联合王国(英国)关于水泥厂的法规里、有规定要参入最低份量的氯元素。故此如果SF 里不含氯元素、那么我们也得参入”，‘堡垒水泥公司’的总经历 - 李察·保得这么解说。世界各国许多[水泥]厂子、在没有使用SF 之前、都会以加入氯化钙的形式、往水泥里参入氯元素。没有证据表明这种做法对环境和安全构成什么风险。

Another benefit is that chlorine in the SF can reduce the alkali content of cement clinker. "Alkalis can weaken a cement, so we need to add chlorine to the ingredients to mop it up. In fact, there is a regulation in the UK for cement works, which specifies a minimum amount of chlorine in the mixture. So if we did not have any chlorine in the SF, then we would need to add it," explains Richard Boarder, general manager at Castle Cement. Many manufacturers throughout the world used to add chlorine, in the form of calcium chloride, before they started using SF. There is no evidence to show that there are environmental or safety risks posed by this practice.

金属物质是巩固在水泥里面、虽然在水泥窑的烟囱的排放气体里含有些微的水平。SF中所含的氯元素被指为是构成二恶英的因素、但是却没有确实的证据显示二恶英是由水泥生产时使用的SF制造出来的。按大伟·高士曼的说法、“美国的数据显示、在监查队伍测量出的、水泥窑的烟囱排放里有些微的二恶英、不论是净烧煤、或者是参入SF、在有些例子里、有证明显示二恶英是呈现在物质里的。”

Metals are mainly immobilised within the cement, although trace levels could be emitted from the kiln stacks. Chlorine in SF has been alleged to form dioxin, although there is no firm evidence to show that dioxin is created from SF during cement manufacture. According to David Gossman, "The US data show that while monitoring teams have measured trace emissions of dioxin from the stacks serving cement kilns -whether they burn coal alone, or add SF to it - the evidence suggests in some cases that the dioxin was present in the raw materials."

## Secondary fuels in the UK 二手燃料在英国

英国使用SF 的历史、于多方面是受美国的影响、特别是在推动和实际监查所得的数据。公众的感觉毕竟是重要的。在英国第一个使用SF 的是堡垒水泥公司与Clitheroe 的

Ribblesdale 厂子、他们有累遭环境投诉的悠久历史、主要是由于过早不良燃烧引致的喷烟事故。所以公司宣布有意使用 SF 也毫无帮助。大部份 Clitheroe 居民的感觉是、他们正被粗糙设置的危险废物焚烧厂所毒害。

The history of SF in the UK echoes the American experience in many ways, especially in the driving forces and the actual data from emissions monitoring. Public perception, however, is important. One of the first plants in the UK to use SF was Castle Cement's Ribblesdale works at Clitheroe, which has a long history of environmental complaints, mainly due to incidents of premature plume grounding. This did not help the company when it announced its intention to use SF. The perception among a significant group of Clitheroe residents is that they are being poisoned by emissions from a clandestine hazardous waste incinerator.

于事后认识到的益处、机构如今承认、低估了媒体对问题的兴趣、有必要加大公开作业、并且与当地居民加强沟通。

With the benefit of hindsight, the Agency now agrees that it underestimated media interest in the issue and the need for greater openness and communication with local residents.

## The EAs approach 本机构的态度

当本机构初次受到水泥厂家使用 SF 的申请时、“他们采取一种对此事务实的态度”、[美国]高士曼公司的大伟·康斯丹说。“那机构当时所做的、就是问使用 SF 的气体排放、是否会比净烧煤更坏。”大伟·高士曼加插着说、“而且他们想要知道、关于我们在美国的经验。他们的观点很简单。他们持着务实、科学的态度、并且索取从厂子里测试所得的数据；于切实的情况下烧煤的、和烧煤与 SF 的混合物时、测得的数据。”本机构明显地忽略了与外界的有效沟通、导致外界对水泥窑燃烧 SF 的剧烈反对。

When the Agency first received applications from cement manufacturers to burn SF, "it took a practical and realistic approach to the issues", says David Constans of GCI. "What the Agency did was ask if the emissions using SF were any worse than they would be from burning coal alone," adds David Gossman., "and they wanted to know about our experiences in the USA and elsewhere. Their view was quite simple. They took a practical, scientific approach, and wanted measurements of the emissions from plants burning both coal, and a mixture of coal and SF under realistic conditions." What the Agency conspicuously failed to do was communicate effectively with outside parties, leading to intense opposition to the burning of SF in cement kilns.

## 对 [BPEO = 最实际的环境选择] 的独断态度

### A pragmatic approach to BPEO [Best Practical Environmental Option]

虽然本机构接受委员会对于公众咨询和沟通策略的批评、在其它方面我们是以实际的结果

来处理事情的。举个例子、委员会所说在SF 的试验中本机构已调整了BPEO 的一套方法、当评估「污染控制一体化」(IPC)的应用时、改为支持SF。

Although the Agency accepts the Environment Committee's criticisms of its public consultation and communication strategy, it takes issue with its conclusions in other areas. For example, the Committee suggested that the Agency had adjusted its BPEO methodology to favour SF when assessing integrated pollution control (IPC) applications and during SF trials.

委员会又说本机构籍以作出决定的数据并不充分、而且机构的稽查人员与水泥业交涉时、轻易偏信。在最近举行的IBC有关二手液体燃料的会议上、本机构的IPC规章政策全国经理 – 唐·默恩坚定地反驳对本机构参改数据以支持SF的说法。他说“自从第一次应用IPC 评估SF之后、我们化了很多心思发展我们自己的BPEO方法、最新的方法根据这个领域里的最新科研成就。换句话说、我们是改进了BPEO的计算方法、根据最新的科研那就是简单良好的科学。因此这方法的本身已改进了。

The Committee's report also states that the data upon which the Agency based its decisions were inadequate, and that its inspectors were credulous in their dealings with the cement industry. At a recent IBC conference on secondary liquid fuels, Don Munns, the Agency's national manager for IPC regulatory policy, firmly refuted the suggestion that the Agency had adjusted data to favour SF. He explained, "We have developed our BPEO methodology considerably since we assessed the first IPC application for SF, and the latest methodology takes into account the latest research in this area. In other words, we have improved the methods for calculating the BPEO, and it is simply good science to take into account the latest research. So the method itself has improved.

## Waste or fuel? 是废物还是燃料？

本机构的观点是、虽然SF 被认为是废物、实际定义并不重要、因为它的影响是依纯科学的基础来评估的。换句话说、如果废气排放 – 以及其它对环境的影响 – 是等于、或少于、净烧煤产生的废气排放、那么来鉴定它的级别的重要性就会降低。但是「地球之友」(FoE)和其他[环保团体]的观点、就是、如果SF的级别定位是废物、本机构就该要求如专门的危险废物焚化炉那样装置同样的废气排放控制。

The EA's view is that, although it considers SF to be a waste, the actual definition is immaterial since its impacts are assessed on a purely scientific basis. In other words., if the emissions – and other environmental impacts – are equal to, or less than, the emissions from burning coal alone, then the classification itself decreases in importance. But the view of Friends of the Earth (FoE), and others., is that, if SF is classified as a waste, the Agency should require cement kilns to fit the same types of emission controls as specialist hazardous waste incinerators.

唐·默恩回答说、“我们已经用一个按比例的系统来执行废气排放的限度。最近对水泥生产的指引、以及欧盟对废物焚化的指令对此已很清楚。如果水泥窑烧40%的SF、那么废气排放限度按比例调整到40%”。

Don Munns responds, "We already do this using a pro rata system of applying, emissions limits. The recent guidance notes on cement manufacture and the EU Directive on waste incineration are quite clear about this. If a cement kiln burns 40% SF, then the emissions limits are adjusted on a 40% pro rata basis."

焚烧厂业界辩称、焚烧厂是烧SF最恰当的场所、把专门的焚烧厂的废气排放、与燃烧SF 的水泥窑的废气排放作比较、来支持他们的说法。这么个比较、何论如何、是不合逻辑的、因为两种类型的厂子不是燃烧同样的物质。一个更切实的比较是、观察于焚化炉和水泥窑里、燃烧煤炭和燃烧煤炭加SF时、产生的废气排放。更加重要的是、作商业用的焚化炉是特别设计为产生低废气排放的、因为它们燃烧的物质比起SF要危险得多。

The incinerator industry advocates that an incinerator is the appropriate place to burn SF supporting its case by comparing emissions from specialist incinerators to those from cement kilns burning SF. Such comparisons are, however, spurious because the two types of plant are not burning the same substance. A more realistic comparison would look at the emissions produced by burning coal and coal plus SF in both an incinerator and a cement kiln. More importantly merchant incinerators are designed to produce low emissions because they are burning substances that are much more hazardous than SF.

## Monitoring data 监察的数据

另外一个委员会的批评是、本机构的数据不足以评估SF 对环境的影响、而且没有应用严格的统计方法来进行数据分析。对此、本机构回答说、已授命进行了广泛的测试、而且也要求水泥生产厂子安装不断监察排气中的SO<sub>2</sub>, NO<sub>x</sub>, 和微粒的仪器。并且、去年秋天、本机构授命研究在Clitheroe于其周围的空气质素(\*\*\*请参阅本文下方的、资料来源注解)。

Another of the Committee's criticisms was that the Agency's data were insufficient to make a proper assessment of SF's environmental impacts, and that it had failed to apply a rigorous statistical approach to data analysis. In response, the Agency says that it commissioned extensive testing., and also required cement manufacturers to install continuous emissions monitoring for SO<sub>2</sub>, NO<sub>x</sub>, and particulates. And, last autumn, the Agency commissioned a study of air quality in and around Clitheroe\*\*\*.

这个研究是用先进的监察科技、包括一个吸收差异的LIDAR仪器、以监察‘堡垒水泥厂’的水泥窑排出烟尘的三维形象。当这些数据与当地居民的投诉连接起来时、本机构能提供毫不含糊的证明、显示那些投诉与燃烧SF扯不上关系。也不是由于SF燃烧不良过早出烟有关。

This study used state-of-the-art monitoring techniques, including a differential absorption LIDAR to monitor 3-D profiles of the



plumes from Castle Cement's kilns. When these monitoring data were linked to complaints from local residents, the Agency was able to produce unequivocal evidence which showed that the complaints were not connected with the burning of SF. Nor was the premature plume-grounding problem connected to SF combustion.

总之、监察研究显示Clitheoe地方的空气质素于大部份时间是好的、但另有许多问题是由于交通造成的。由于燃烧不良而喷烟的问题确实造成局部增加微粒排放、可能是二氧化硫。本机构现在正逼使‘堡垒水泥厂’安装控制设备来大幅度降低这类排放。

In summary, the monitoring study showed that air quality in Clitheroc is good for most of the time, with many of the problems caused by traffic. The premature plume-grounding problem does cause localised increases in emissions of particulates and, possibly, SO<sub>2</sub>. The Agency is now forcing Castle Cement to install control equipment to dramatically reduce these emissions.

委员会曾经也批评过本机构的数据的统计不够。可是、废气排放的监察和抽样等工作、如委员会报告中所说的、既非简单又不是象报告所说的不够充分。举个例子、所测到的废气排放的因素、如[重]金属和二恶英、是接近监察科技能探测到的极限、因此得到的结果有高度的差异。当然这问题似乎很容易克服、只要大数量地抽取样板、可是美国的环保部尝试过全面地用各种方法测试、结果显示那样做未必能减低差异。因此、本机构 - 像其他监察机构那样 - 尽量抽取富代表性的样板以作监察。

The Environment Committee had also criticised the adequacy and statistical significance of the Agency's data. However, the emissions monitoring and sampling cited by the Committee were neither as simple nor as inadequate as its report suggests. For example, the emissions measured for determinants such as metals and dioxins were near to the detection limits of the monitoring techniques, so the results have a high variance. Whilst it might appear easy to overcome this by taking an enormous number of samples, comprehensive methodology trials carried out by the US EPA show that this does not necessarily decrease the variance to justify it. So the Agency - like other regulators - optimises monitoring by taking representative samples.

## Partisan inspectors 偏袒的稽查员

环境委员会的批评中最苛刻的一个指责是：作为一个监察者必须保持中立、指本机构的稽查员在与水泥业打交道时偏袒他们。地球之友也指责稽查员们偏于同情水泥工业。本机构的大伟·斯莱特博士不表同意、虽然本机构有必要、与那些受我们管制的单位保持对话、但我们随时准备和愿意、在必要时采取果断的行动。

One of the Environment Committee's most damning criticisms, for a regulator that is meant to be impartial, was that Agency inspectors were partisan in their dealings with the cement industry. FoE has also accused inspectors of being sympathetic to the industry. The EXs Dr Slater disagrees strongly with such suggestions and stresses that, while the Agency needs to maintain

a dialogue with those it regulates, it is ready and willing to take firm action when needed.

‘堡垒水泥厂’的李察·保德也不同意本机构偏帮他们的说法、他反驳说“我们曾经看到过劝喻和检控的坚决行动。”今年夏季里、本机构曾经检控‘堡垒水泥’于Clitheroe 的厂子、被指违反废气排放的规定、而且近来发出一张执行状给‘堡垒’在威尔斯的厂子、也更没有对该公司要求放松SF规范的事让步。

Richard Boarder of Castle Cement also disagrees that the Agency is partisan, commenting, "we have seen a definite move from persuasion to prosecution." The Agency is prosecuting Castle Cement this summer over alleged breaches of its emissions limits at the Clitheroe plant, and recently issued an enforcement notice to another of Castle's plants in Wales. Nor did it cede to the company's request for a relaxation of its SF specification.

‘兰圈水泥’也质疑本机构同情他们的说法、因为本机构曾建议该公司应撤回两份使用[烧]SF的申请书、“我们对提供的数据并不满意、并建议他们在取得更多的数据后再行申请，”唐·默恩这么说。

Blue Circle Cement would also dispute that the Agency is sympathetic, after the Agency recommended that the company should withdraw two applications to burn SF "We were not satisfied with the data and suggested that they reapply when they had more data to support their application," says Don Munns.

美国的独立顾问公司、GCI的大伟·康斯丹、曾经帮助过‘红宝石’水泥公司鉴定于燃烧SF时的IPC变异、他说：“监察机构的人员是有丰富经验和专业知识的、这在他们对现行的和提议的种种行动、以及提出的问题里反应出他们的理解。”以他的观点、本机构对于水泥窑燃烧废物是采取一个很实际的立场、认为这个做法是必须加以监控和调查的。

Independent US consultant, David Constans of GCI, which helped Rugby Cement with its IPC variation to burn SF says: "The regulatory personnel are experienced and professional. This is reflected in their understanding of the current and proposed activities and in the questions they ask." In his view, the Agency has approached the burning of waste materials in cement kilns from a very practical stance, as an activity that must be regulated and investigated.

大伟·高士曼观察到：“引起最少麻烦的水泥公司、就是那些不惜化些时间和努力、来教育员工和当地群众、正在进行些什么事。这会需要举行一些聚会和作很多的解说、而且成立由当地领袖组成的团体、由他们的代表与水泥公司定期开会、解答问题、并且对付谣言与误解。不论如何、应该留意、这些会议会包括一些投诉与使用废物燃料毫无关系的事、但是水泥厂子的如何运作、却会对当地社区产生影响。厂子也必须准备应付这些疑虑。如有政府的环保机构积极参与这些会议就会有很大帮助。不过、如果人们察觉到政府机构对此事并不热心、那么参与反而会有负面影响。”

David Gossman observes: "Those cement companies which have had the least amount of trouble are those that have spent the time

and effort to educate their workers and the local people in what is being done. This requires a number of meetings and a lot of explanation, and includes setting up a group of local leaders, with which representatives of the cement company meet regularly to answer questions and to deal with rumours and misrepresentations. Note, however, that these meetings will often include complaints that have nothing to do with the use of the waste fuel but have to do with how the operation of the cement plant impacts the community. The plant must be prepared to address these concerns as well. It is helpful if the government environmental agency actively participates in these meetings. However, if the people perceive that the agency is in the least way favouring business, then this participation will be of negative value."

The EA has taken note. 本机构已经 留意到了。

以下是本文牵涉到的文件：

\* "The environmental impact of cement manufacture: third report of the House of Commons Environment Committee", HC 124-1, available from The Stationery Office, ISBN 0 10 215297 7, tel: 0171 873 9090, price £12.50. ? Copies available from Jeff Hockley, Environment Agency, Steel House, 11 Tothill Street, London SW1H 9NF, free.

\*\* "The Government response to the Environment Select Committee report on the environmental impacts of cement manufacture", ISBN 0 10 136922 0, Cm 3692, available from The Stationery Office, price £2.00 ?? "Secondary liquid fuels in kilns", 24 June 1997, IBC UK Conferences Ltd, tel: 0171 637 4383.

\*\*\* "Air quality monitoring in the Clitheroe area of Lancashire", available from Steve Devitt, Environment Agency, Lutra House, Dodd Way, Walton Summit, Bamber Bridge, Preston PR5 8BX, free.

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## 回复环境委员会的报告、本机构采取了以下的行动：

Actions, which the EA is taking in response to the Environment Committee report:

- 履行一个针对废物燃料的坚定监控政策、类如二手燃料  
implement a consistent regulatory policy on the burning of waste fuels, such as secondary fuels.
- 如果最终对环境有负面影响就不批准燃烧废物燃料  
Not Issue authorizations for the burning of waste fuels if there is a net adverse effect on the environment.

- 履行一个公开的、坚定的执法策略  
Implement an open and consistent enforcement policy.
- 重新召唤进行代替燃料的试验、和成立代替燃料咨询小组、来连贯地平估废物燃料的燃烧试验  
Reconvene the substitute fuels trials, and the substitute fuels advisory panel, to consistently evaluate the trial burning of waste fuels.
- 校订有关废物燃料燃烧试验的备忘录  
Revise protocols for the trial burning of waste fuels.
- 依欧盟的指令、制订废气排放的限度以便立法  
Set emission limits in accordance with EU Directives and national legislation.
- 有需要的地方收紧燃料的规范  
Tighten the fuel specifications where needed.

## Enforcement 执法

- 增加对厂子的突击监察  
Increase unannounced plant inspections.
- 以严厉执法行动对付违例者  
Take vigorous enforcement action against breaches of authorization conditions.

## Public consultation 与群众沟通

- ◆ 即时应付公众的疑虑  
Take deal promptly with public concerns.
- ◆ 对试烧或正式经常使用[烧]、两者都会增加公众咨询、并且向公众发放 良好的信息  
Increase public consultation for both trials and continued burning, and improve the quality of information provided to the public

## Monitoring 监察

- 对水泥窑的废气排放、进行更多的独立监察  
Commission more independent monitoring of emissions from cement kilns
- 增加对厂子和废气排放的报告的检查、以保证监察数据随时可供公众检阅。  
Increase scrutiny of operator, reports of emissions monitoring, to ensure that monitoring data are available promptly on the public register.