

Banbury Friends of the Earth.

Comments upon the

Coca-Cola Schweppes Beverages

Supplementary Environmental

Impact Assessment.

Banbury FoE, June 1990.

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1). Introduction.

The proposed Coca-Cola Schweppes Beverages plant will have far reaching effects on Banbury and North Oxfordshire. These effects range from traffic congestion to atmospheric pollution. It is important therefore that all these issues are properly considered before the go ahead for construction is given. It was stated by Councillor Spencer that the Planning Committee would have to have very good reasons for rejecting the application. The implications of this development are such that the application should only be granted on the basis of strong, incontrovertible evidence, that the plant will not adversely affect the local environment, or cause a nuisance to the people of Banbury.

The first environmental impact assessment was produced in February and was considered sufficient by the developers for the impact assessment requirements of the planning application. The report was shown to be flawed, and lacked the detailed information necessary for the planning officers and committee to make a decision. We now have a supplementary assessment which has many great changes from the first.

The new assessment addresses many of the points put forward, by the councillors on the committee and by members of the public. However there are still some points which they have failed to address - eg, a full explanation of solvent emissions. The following is an analysis of the information put forward in the supplementary assessment.

2). Traffic Impact.

2.1 Comments of traffic analysis.

The use of a mechanistic system to model a random one does not produce an accurate interpretation of what can happen. Depending on the system and the data fed into it, it can produce a picture of what can happen, but not an exact accurate forecast.

The weak link is the data fed into the system. If the data is not complete, or is inaccurate, then the information produced will be flawed.

The weak spot in the Coca-Cola assessment is the reliance on low growth figures in the production of data for the years 2000 and 2010. Growth figures can be very inaccurate, and the National Road Traffic Forecasts have to be regularly redrawn to take account of this.

It would have been more satisfactory to have had assessments conducted for both low and high growth rates, especially considering the future development prospects for the town with the opening of the M40. The national growth may be low, but as long as the space for development is available locally Banbury could be a boom town as companies move here to take advantage of the M40.

It is not therefore correct to state that the road infrastructure will cope. CCSB should be asked for the possible statistical error on these figures.

2.2 Points to be considered.

Firstly, the analysis of traffic flows produced by the ARCADY program do not include an assessment of the traffic flows around the M40 junction. The access and exits from the motorway are narrow, and could not accommodate an HGV and another vehicle side by side. Also, if most the the lorries head south, they will have to go right around the roundabout before turning on to the motorway. This again will slow access to the motorway, as well as the A422 and A361.

Secondly, and as stated above, the traffic forecasts rely on a low growth level. It is true that nationally we can have low growth, but this is only an average, and does not reflect localised variations. Therefore, if we have high growth locally, which is possible as firms looking for good transport links relocate from the urban centres of London and

Birmingham, our local growth level could peak significantly above the national average.

Thirdly, Banbury is in the position of having both rail and road connections. With the opening of the Channel Tunnel, centres with both rail and road connections will be sought after as freight depots, and such a scheme has already been talked about. The pressures of such a developments would add more traffic to local roads. If the justification for the Coca-Cola plant is jobs, above other issues such as traffic congestion, how could we refuse the development of a freight depot?. Freight depots also provide a relatively few jobs for a large amount of traffic.

Another flaw in the traffic report is the idea that having lorries clock in at regular times will prevent large numbers of lorries entering the town. In fact, given the habits of lorry drivers, this is far from true. Take in to consideration two arguments.

Firstly, if to get to a destination by a given time, you would naturally build in a generous margin for delay. If the lorry arrives at Banbury before its given time, it will have to pull up somewhere or drive around. There are not many lorry parks in the area, and so there is a good chance that many of them will stop on local roads - for instance in local industrial estates.

Secondly lorries travel in groups, especially if they are coming from the same place. If this occurs, and the lorries have a difference in booking in times greater than the margin allowed by CCSB, then one or more lorries will have to find somewhere to stop.

There is insufficient parking on the CCSB site for more lorries than would normally arrive under the timed check-in system. There are also few places for lorries to park up in the town. The problems of lorries needing somewhere to stop has not been considered by CCSB. With 850 HGV's a day entering the town, it is going to be essential that they have sufficient space to stop. Lorry drivers must take breaks after a number of hours, and there will be quite a few needing to do this. Therefore, more parking is essential.

The problem of traffic congestion is not solved by this report. There is no certainty that the figures presented are correct. If CCSB state the figures presented as fact, they are misleading the public and the planning committee. These figures are a projection, based as stated on the **LOW** growth estimates provided by the DoT. The real situation, especially if the local economy undergoes a boom period in which local growth is higher than national growth, these figures could understate the true traffic levels by a large amount.

Finally, there is no mention of the possible effects of the traffic generated during the **construction** of the plant. There should be indications given as to the level of HGV movement, etc, which will be generated during the dconstruction and fitting out period.

3). Airborne Emissions.

3.1 Modelling atmospheric pollution.

The SCREEN program used by Dames and Moore to produce an indication of the of pollution which could be caused by the CCSB plant is based on a number of mathematical equations. These seek to explain a chaotic system mathematically, and thus have an in-built statistical error. No indication of the possible statistical error which can be produced by SCREEN is given.

Secondly, the whole system is based on windspeeds, different windspeeds determining the different dispersal categories used. This is not the correct way to determine properly the spread of contaminants.

The stability category used should be determined from solar radiation, windspeed and cloud cover. The date and time allows the level of solar radiation to be predicted, and together with the windspeed this determines the instability of the air. Cloud cover is important also because this again affects the stability of the air. A proper assessment would pick a number of scenarios based on differing weather patterns, and then produce a range of possible air concentrations.

For example, there is a marked difference of the way air moves at night, and during the daytime. The action of the sun heating the atmosphere causes instability and can give large fluctuations in the mixing depth, whilst the cooling of the earth during the night causes more stable air patterns. A category A (or 1) weather pattern (bright sunny day, windspeed of 2m/s) will cause the emissions from a chimney to be localised around the immediate area (perhaps as little as 1km in radius). However, a category D (or 4) weather pattern (dull day, but windspeed still 2m/s) will cause the pollution to peak some distance away (perhaps 2-3 km). At night, where the category is determined by cloud cover and windspeed, the pattern changes and the peak of pollution can be much further away (up to 10km).

This assessment should not be taken as an accurate reflection of the possible extent of contamination. The possible margin for error is wide, especially in unstable conditions, and the full difference between night-time and day-time mode of dispersal needs to be examined. Figures showing the possible breakdown of the treatment system, say an efficiency of only 70-75%, should be produced.

3.2 Comments on stated emission levels.

It is impossible to check the figures presented because the full set of information on

which the SCREEN program is based is not included, and the technical texts used are not easily available at such short notice from libraries.

Almost all the calculations are based mainly on stability category 5 (or E). This is not an accurate reflection of the possible spread of contaminants, and as stated in the report, Cat. E only occurs for 9% of the time. It therefore understates probable contamination levels for two reasons.

Firstly, it does not consider extreme inversion conditions which can, and do in this area often occur. It is known that the Cherwell valley suffers from fog and mist. This is a result of inversion, and the generation of still air pockets under certain conditions.

In inversion situations air becomes very still, and thus the pollution input does not get dispersed. This leads to a steep rise in the concentration of pollutants. The levels of pollutants will continue to rise until such a time as diffusion out of the inversion layer comes into equilibrium with the input of pollutants, this level being determined by the size of the inversion and level of pollution input.

Information on the levels of airborne pollutants which could be generated in an inversion should be produced by CCSB.

Secondly, as stated Cat. E only occurs for 9% of the year. Assessments should be produced using Cat. D (50% of the year) and Cat. C (20% of the year). These two categories actually give slightly higher levels of pollution at ground level, concentrated nearer to the plant (0.5 to 2km, depending on windspeed).

As this assessment is not based on possible local conditions, and does not fully consider the wide range of weather patterns necessary to produce a full account of the possible spread of pollution.

3.3 Compounds not specified in supplementary assessment.

The supplementary assessment talks vaguely about the substances given off in the can making process. Most references concern groups of chemicals, and do not refer to specific solvents, resins, etc.

'What do these emissions contain?' is the question that has been put by both councillors and the public. There is no information presented in the Banbury statement, but the Northampton statement (*Technical Paper 4 - Air Emissions*) contains detailed information on the substances used in the coating of the cans and their composition, as well as data on the composition of emissions. The list of solvents which will be used in the can making process is as follows :

*Can lacquers - n-Butanol.
 2-Butoxy Ethanol.*

*Basepaints - 2-Butoxy Ethanol.
 N-Butyl Alcohol.
 Butyl Diglycol Ether.
 Xylene.*

*Thinners - 2-Butoxy Ethanol.
 Methyl Ethyl Ketone (MEK).*

If the above information can be produced for the public and local authority in Northampton, why can't the same information be produced for Banbury?.

To give an indication of the toxicity of these substances, you need only to consult the

Health and Safety data sheets:

Butanol - Harmful if inhaled. can cause headache, dizziness, irritation of eyes and skin.

Methyl Ethyl Ketone (Butanone) - Inhalation causes dizziness, headaches, nausea. May cause mutagenic or teratogenic effects.

2-Butoxy Ethanol - Harmful by ingestion, inhalation and skin contact. Repeated exposure can cause kidney and liver damage. Irritating to eyes and skin.

The use of an effective control system should reduce the quantities of solvents being emitted to very small levels. This may or may not stop the obvious toxic effects of these solvents. The problem of the mutagenic and teratogenic effects will not be solved as it is possible that very small amount over a long period could cause problems for workers as well as the public. There have been very few studies about the significance of low level exposure to these substances.

Little information is presented on the reaction of substances given off in the production process, and the possible effects on the environment of these substances. Again, the Northampton assessment deals with this topic briefly. According to the data presented there, the following substances would be given off from the oxidiser plant *in addition* to the substances CCSB, in the Banbury assessment, say the oxidiser will produce:

ug/m³ of

exhaust gas.

| | |
|------------------------|---------|
| Hexane. | 3.5. |
| Benzene. | 2.6. |
| Toluene. | 2.6. |
| Xylene. | 29. |
| Methyl Nitro Propane. | 184. |
| Aromatic Hydrocarbons. | 12.1. |
| Decanol. | 55. |
| Pentanoic Acid. | 0.1078. |
| Hexanoic Acid*. | 76. |
| Heptanoic Acid*. | 0.2461. |
| Benzoic Acid. | 267.8. |
| Phenol. | 3.5 |
| Octanoic Acid*. | 41.5 |

All this in addition to the Formaldehyde and Nonanoic Acid mentioned in the Banbury assessment. The Northampton assessment also notes that Nonanoic Acid, in addition to some of the above substances (marked *) will exceed the odour detection threshold in the exhaust from the oxidiser. Brief mention is made in the Banbury assessment (p34) that 'some fatty acids have low odour thresholds'. If CCSB had this data, why could it not be presented in the Banbury statement?. Why are some of the odour threshold (OTV) figures in the Northampton assessment lower than in the Banbury assessment?. The Banbury statement also makes the point that 7% of the emissions will be Formaldehyde. Recent studies in the US and Europe show that Formaldehyde is carcinogenic, and has been banned for use in schools and some research establishments.

Finally are the substances which will be formed by reaction with the air around the plant. For example, ozone. This is formed by the reaction of oxides of nitrogen and unspent hydrocarbons in sunlight. Levels of ozone have been increasing during the past decade, and the recent string of hot summers has led to the safe level set by the World Health

Organisation to being exceeded on a number of occasions in Oxfordshire (source of figures - UKAEA Harwell).

The input of oxides of nitrogen and hydrocarbons from the CCSB plant, and also the motorway, could lead to high levels of ozone being produced in the Cherwell valley, especially during still anticyclonic conditions. This will have effects on people with respiratory problems and very young babies. The effect upon the local environment, especially trees and plants, is even greater.

There are many items omitted from the Banbury supplementary statement, which are included in the Northampton assessment. CCSB should be asked to clarify why this has happened, and provide answers to some of the problems highlighted above.

3.4 Treatment of gaseous emissions.

The preferred treatment process put forward in the original impact assessment was catalytic converters. Suddenly CCSB have switched to Regenerative Oxidation. Are we to assume therefore that all the information given about the effectiveness of catalytic converters by CCSB representatives was incorrect?.

A number of possible treatment processes are mentioned in the supplementary statement, but are not discussed. In fact two of those on the list, carbon adsorption and biological oxidation, are not on the DoE's list of preferred technologies (*set out in "Standards using the best available techniques in printing and coating metal packaging - 1990 draft"*). They also omit one process on the DoE's preferred list - solvent recovery.

As stated in the previous section, regenerative oxidation does not produce only carbon

dioxide and water. It does in fact produce numerous other compounds produced by the reaction of substances in the oxidiser, or during the paint/resin curing process. Some of these compounds will be at detectable levels, and during certain weather conditions this could be over a wide area. To say that the problem of emission control has been solved therefore is incorrect. Yes, they have a system to *mitigate* the emissions from the canning plant, but they do not have a system which can be guaranteed to remove substances to a level which does not produce a detectable odour or damage the local environment.

3.5 Implementation of emission standards and compliance monitoring.

Under new regulations put forward by the DoE, plants printing and coating metal packaging will have to meet certain requirements on emission standards. Monitoring of emissions is also required, and this information must be kept up to date for inspection by the pollution inspectorate of local authorities. Standards for maintenance and supervision of the emission control equipment are also to be specified.

Very little is said about maintenance of the plant, and nothing is said about how they are going to ensure that they do not emit substances at levels which may harm the environment. A system should be devised which will ensure regular and accurate monitoring of the composition of the emissions from the plant, both gases and liquids. This should ensure that anything which is given off and which poses a potential danger to the environment can be detected quickly and remedial action taken.

As part of planning permission, CCSB should give guarantees to implement a system of compliance monitoring, to ensure that they stay within the emission levels stipulated in

the DoE's regulations, and that the composition of emissions, and the levels of known toxins in those emission, are at levels which present no risk to health or the local environment.

Regular maintenance of the effluent treatment and gaseous emission control plants is also essential. Great care must be taken to ensure reliable operation at all times. Only if the plant is carefully maintained can we be assured that incidents which could lead to pollutants escaping from the plant will not occur.

4). Effluent Treatment and Disposal.

4.1 Effluent treatment methods.

Two methods of effluent treatment are proposed, aerobic and anaerobic digestion. Both systems are effective in treating effluent, but of the two anaerobic digestion would be preferred as this method is more energy efficient.

The only problem with the anaerobic process is that at times an excess of biogas may be generated. It is proposed to flare off this excess, but the similarity of biogas and natural gas means that it would be possible to utilise the gas in the plants boilers. This point should be put to CCSB.

4.2 Liquid disposal.

At the moment it is proposed to send all wastewater and treated effluent into the local sewer system. Though it has been stated by CCSB that they would make a contribution to the costs of the new sewer and the expansion of the Spital Farm works, the construction of the extra capacity will cause yet more disruption. Also, it will mean that heavy metals and other contaminants will be present in the sludge produced by Spital Farm, some of which is used on agricultural land.

A much sounder alternative, and one which has not been looked into properly is total on site treatment. Not only would this be preferable because better treatment technologies could be utilised to provide more effective removal of the toxic materials present in the waste, but also waste sludge could be disposed in a way which ensures that the heavy metals and toxins which are not passed into the environment or the food chain (by use on agricultural land).

Another reason for getting CCSB to treat their own effluent before discharge into local watercourses is that it puts the responsibility for ensuring that discharges are of the highest standards on CCSB. By giving the effluent to Thames Water plc it ceases to be CCSB's problem.

5). Other Issues.

5.1 Conflict with structure plans.

The county structure plan emphasises the protection of the environment and the restraint of rapid and large scale development. This application is in direct opposition to this, solely because of its scale and the impact in terms of traffic generation, discharges and physical intrusion into the landscape that the plant will cause. In fact the application can be taken to be in opposition to 7 points in the county structure plan (G1, EN1, EN3, EN4, EN6, EN10, T7).

The development is counter to the Banbury Local Plan. The main point is that only twenty acres of the 82 proposed for development are zoned for industrial development (policy EMP2). It is also contrary to policies EMP4, ENV5, ENV6, ENV7, ENV14, ENV15, ENV18 and ENV21.

Also, the application is contrary to the Rural Areas Local Plan. Over 60 acres of the development are outside Banbury, in a rural area. It is contrary to policies E2, E5, E11, E13, E20, ENV20.

There is an overwhelming case for rejecting this application as being contrary to local planning policies at county, local and rural level. When Cherwell District Council held consultation meetings to talk about the new Banbury Local Plan, councillors on the planning committee upheld the importance of local plans, and how important it is to stick to these plans. It would now seem that the committee are now considering passing an application which turns all the local plans on their head.

5.2 Hazards from the operation of CCSB in Banbury.

Apart from the health problems of effluent discharges which have been widely discussed, there is another health threat which has not been discussed.

Tankers contain lacquers, resins, thinners, etc, will regular come up the motorway on their way to the plant. Once there, they will transfer their load to holding tanks where these substances are stored in bulk. There is an obvious hazard here. Most of these substances are highly volatile. Most require special protective clothing to handle safely.

Though needs to be given to the safe storage of these substances. Limited information is given in the supplementary assessment, but there are no details of the measures taken to prevent fire hazards, how spillages from tanks will be handled, and what action would be taken in the event of a fire or explosion in one tank, to prevent this spreading to other tanks thus causing a major incident.

Should the plant ever be built, the council will have to draw up detailed emergency plans (perhaps under CIMAH regulations) to ensure that any incident at the plant can be tackled by emergency services, and that the danger to the public is minimised by planning for evacuation of nearby houses/factories.

This may seem a remote topic, but if the plant goes ahead we will have a major fire hazard only a few miles from the town centre.

5.3 Northampton environmental impact assessment.

One point which should be thoroughly looked in to is the difference between the Banbury

and Northampton environmental impact assessments. It would seem that CCSB are applying two standards - Northampton gets detailed information, Banbury gets sketchy outlines.

For example, the odour detection threshold specified for Nonanoic Acid in the Northampton assessment is stated as 20ug/m³. In the Banbury assessment it is quoted as high as 120ug/m³. In the Northampton assessment the concentrations of 14 substances in the emissions from the thermal oxidiser were given. In Banbury we get a few lines say that most products in the exhaust will be below odour threshold. In Banbury we are told about lacquers and base paints. In Northampton we are told what these are and what they contain.

There is a lot of information which is reproduced in both reports, but it is obvious that the Northampton document has more depth. Why did this occur when the plant they propose to build at Banbury or northampton is the same?

5.4 CCSB publicity material.

Unprecedented in any planning application in the town, CCSB took full page advertisements in the local newspapers to put their point of view across. The points put forward were also inaccurate, verging on the point of deliberate deception of the public.

For example, CCSB state that, "the soft drinks factory does not smell and the can making

factory alongside will be fitted with the latest environmental control equipment and will meet all the required standards". Not only does this say not answer the question '*will local residents be affected by smell?*', but if is intended to indicate that the plant as a whole will not smell it is inaccurate because, as the evidence from Northampton indicates, there will be smells in the immediate vicinity of the plant. It is possible for the plant to meet the emission standard of 150mg/m³ residual carbon, and for the emission to give off strong smells. This is because substances with low odour detection thresholds will be discharged, and carbon content standards bear no relation to odour levels.

It is a pity that CCSB have to resort to public barrages to get their point, and perhaps their application, through.

5.5 Archaeology.

In all of the complex technical argument, the point about archaeology has been lost. The site is of high archaeological value and should be protected as much as is possible. If a farmer wanted to erect a very large barn on the part of the archaeological site which is to be built upon he would not be allowed. Policies in the county, local and rural structure plans would prevent it. Does the site have any less value because of Coca-Cola?.

The arguments on archaeology were quickly dismissed by councillors very early on. This was very regrettable, and they should be made aware of the importance of the site in the history of the area. There are very few sites, especially this well preserved, in the area. It must be protected from damage.

6). Main points and recommendations.

Coca-Cola Schweppes are obviously trying to do everything possible to gain planning permission at Banbury or Northampton. They have invested many thousands of pounds in assessments, publicity and information. However, when it comes to making a decision the pressures of a multinational trying to get its way should not be allowed to sway the committee. We make the following points:

- 1). **Structure Plans:** On the basis of the County Structure Plan, the Banbury Local Plan, and the Rural Areas Local Plan, this development should not be allowed to go ahead. Granting permission will create a free for all for every developer in the country. The council stated it wanted to prevent development to the East of the M 40. If it allows this development is allowed to go ahead against the policies in the structure plans they will not have a leg to stand on if they want to refuse future applications.
- 2). **Environmental Assessments:** CCSB has put a lot of effort into producing the required Environmental Impact Assessments, but there are still many points which have yet to be fully explained to our satisfaction, and much of the information which has been presented can be queried as to its accuracy or validity in its application to local conditions. The difference in style and detail between the Northampton and Banbury assessments is another obvious sign of the limited scope of the information presented to the councillors and public in Banbury.
- 3). **Traffic:** Without additional information on the possible higher limits of the traffic flows in and around the Banbury area should we go through a period of prolonged growth some time in the future, an accurate judgement as to the capacity of our roads cannot be made.
- 4). **Airborne Emissions:** The information presented on airborne emissions is based on a

incomplete methodology which has no bearing to local conditions. Some of the evidence presented is also contradictory to that presented in the Northampton assessment.

5). **Compliance Monitoring:** At no point is compliance monitoring discussed in detail. Without information as to how they are going to maintain pollution control systems and check the composition of their discharges to the environment, the go ahead should not be given.

6). **Accident Hazard:** The full potential of a serious incident should be considered by CCSB, together with the possible implications for nearby resident and the surrounding area.

Banbury does not have the infrastructure to cope with a development of this size. The information presented to date has been sketchy, and at time its accuracy has been suspect. The differing information given, eg, the switch from catalytic convertors to regenerative oxidation, shows that CCSB are trying to rush through the construction of this plant with no real thought for the safety of the public and the environment.

Without including reasons on the grounds of environmental protection or traffic congestion, this application would easily fall on the basis that it is contrary to all the local structure plans. The matters of environmental discharges and traffic, should the application be rejected, would be secondary to this.

After assessing the evidence supplied by Coca-Cola Schweppes and looking at the possible problems and benefits this plant could bring to the town, we feel that this application should be rejected, primarily on the grounds that it is contrary to policies in the County, Banbury and Rural Areas Structure Plans. Less than one quarter of the site is zoned for industrial development, and the rest is in a rural

area. Secondly, the evidence produced by CCSB does not convincingly show that the plant would cause no effects on the local environment and on the town, be it from airborne discharges or traffic congestion. The benefits of the development do not outweigh the problems the plant could cause in the area.

Banbury Friends of the Earth.

Wednesday 20th June, 1990.