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W.0900 27 November 1984

PRIME MINISTER

EC STANDARDS FOR MOTOR VEHICLE EXHAUST EMISSIONS

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At your meeting on 'Acid Deposition' on 19 June, the Secretary of State for the Environment proposed that he should "support stricter emission standards for petrol-engined cars - but ensure that the latter do not require 3-way catalysts". This was agreed with the proviso that a specific reference to the advantages of lean-burn engine technology should be added.

2. Since 19 June there have been no significant changes in the science or technology of vehicle emissions or their effect on forest damage. But Germany, alarmed by reports of increasing forest damage, has acted unilaterally and imposed standards which can only currently be met by 3-way catalysts. Emission figures for current and proposed standards and current performance tests are summarised in the Annex.

3. The rest of the EC has the option of seeing the internal market for cars fragmented or trying to reach a compromise with Germany which preserves the internal market without making needlessly expensive and ineffective concessions to environmental concern. The paper by the Minister of State for Trade and Industry suggests the basis for such a compromise.

4. The Germans favour the use of 3-way catalysts because they are available 'off the shelf' but their disadvantages cannot be over-stressed. From the technical standpoint they are inferior to lean-burn technology in nearly all respects. They are 'add-on' devices which impair performance and raise fuel consumption, and are much more susceptible to deliberate or accidental damage and to poor maintenance. Not surprisingly their effectiveness in the United States has been shown to be

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poor, and in the quite different European driving conditions they are likely to perform even less well. Furthermore, their use for smaller cars could be self-defeating: the resulting loss of performance may cause motorists to move to larger cars with greater emissions! Finally, virtually the entire world supply of the platinum group metals needed for 3-way catalysts has to come from South Africa and the USSR.

5. To these technical and strategic disadvantages of going the German way must be added the substantial cost burden of £12.5 bn pa for the European consumer - effectively a second CAP. Nevertheless if Ministers decide that an attempt to reach a compromise is worth while to preserve the internal market, the following points should guide the negotiating group proposed by Mr Lamont:

(a) 3-way catalysts for large (more than 2 litre) cars are the lowest cost (only 10 per cent of the market) and most sensible concession since lean-burn technology is a long way from meeting even Stage I limits for this engine size;

(b) a reduction in the 2 litre break-point must be resisted since one quickly gets into large segments of the market;

(c) care should be taken to limit the downward negotiation of emission limits from small and medium sized cars to figures achievable with lean-burn technology without oxidation catalysts. The latter are of unknown cost and performance and will remain so for some time;

(d) the use of lean-burn technology on below 2 litre cars should be mandatory in the UK market so that the development of sensible emission control technology is encouraged for all manufacturers in Europe.

6. I am copying this minute to Sir Robert Armstrong.

RBN

ROBIN B NICHOLSON
Chief Scientific Adviser

Cabinet Office
27 November

ANNEX

CURRENT AND PROPOSED EMISSION STANDARDS AND RESULT OF CURRENT PERFORMANCE TESTS FOR LARGE AND SMALL CARS.

Standards	Carbon monoxide	Nitrogen oxides	Hydrocarbons plus nitrogen oxides
Current UK and EC standards	67	8	20.5
Proposed EC Stage I standard (1989/1991)	45	6	15
Proposed EC Stage II standard (1995)	10-35	1.1-4.0	2.6-8.2
German proposal based on USA standard	15	3	5
Current performance tests			
Large (2-litre)car			
(a) with lean-burn engine	65	8	21
(b) with 3-way catalyst	20	3	5.5
Small (1.4 litre)car			
(a) with lean-burn engine	40	5	13.5
(b) with 3-way catalyst	15	2.5	4

All figures are grams per ECE test