

**IIEC**

**INTER-INDUSTRY EMISSION CONTROL**

**PROGRESS  
REPORT  
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**SOCIETY OF AUTOMOTIVE ENGINEERS, INC.**



# INTER-INDUSTRY EMISSION CONTROL

## INTRODUCTION

The Inter-Industry Emission Control Program (IIEC) was formed by Ford Motor Company and the Mobil Oil Corporation in April, 1967, as a multimillion dollar, three-year cooperative research effort on automotive emission control, with Ford as Project Manager. Soon after its inception, five other oil companies joined the program, and in July, 1968, IIEC became international, when three Japanese automobile manufacturers and one Italian automobile producer joined as cooperative research partners. The IIEC membership includes:

- American Oil Company
- Atlantic Richfield Company
- Fiat S.p.A.
- Ford Motor Company — Project Manager
- Marathon Oil Company
- Mitsubishi Motors Corporation
- Mobil Oil Corporation
- Nissan Motor Company, Ltd. (Datsun)
- The Standard Oil Company (Ohio)
- Sun Oil Company
- Toyo Kogyo Company, Ltd.

Subsequently, arrangements were made for IIEC research results to be made available to Volkswagenwerk A.G. and Toyota Motor Co., Ltd.

For the first three and one half years of the Program the IIEC member companies conducted joint research studies to develop experimental hardware and fuel systems to meet the very low emission targets established by the IIEC. These emission targets as compared to an uncontrolled car were:

	IIEC Exhaust Emission Targets gm/mile	Typical Uncontrolled Vehicle gm/mile
HC	0.82	13-16
CO	7.1	83-90
NO <sub>x</sub>	0.68	3.5-7

The above targets were established in accordance with the Federal Test Procedure (F.T.P.) in existence at that time.

The principal research results of the experimental efforts of the IIEC Program in attempting to reach its own targets on the (7-mode 7-cycle) FTP as well as the initial test results obtained on a revised test procedure and driving schedule (CVS) were reported in eight separate SAE papers presented in January 1971. The eight SAE papers are available in a SAE Special Publication #361.

Since the earlier report, the IIEC has been conducting extensive research efforts in an attempt to meet its revised emission objectives which are based on the very severe 1976 vehicle emission standards established by the Clean Air Act Amendment of December 31, 1970.

These new IIEC emission targets required at low vehicle mileage are based on a very minimal anticipated depreciation in emission control performance with mileage accumulation. The new low mileage emission targets referenced to the vehicle emission standards required for 1976 are:

	IIEC		1976	
	Low Mileage Exhaust Emission Targets		Exhaust Emission Targets	
	CVS	C/H gm/mile	CVS	C/H gm/mile
HC		0.19		0.41
CO		1.5		3.4
NO <sub>x</sub>		0.13*		0.4

\* (0.26 w/o use of a NO<sub>x</sub> catalyst)

The research results of the last sixteen months of development by the IIEC are documented herein in seven separate SAE papers. In addition, three additional papers by Volkswagenwerk A.G. and Toyota Motor Co., Ltd. are also included.

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