24TH MEETING

HELD AT

CENTRE FOR HIGH TECHNOLOGY
NEW DELHI

ON

AUGUST 21, 1989

सेन्टर फॉर हाई टेक्नोलोजी
भारत सरकार
पेट्रोलियम और प्राकृतिक गैस मंत्रालय
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CENTRE FOR HIGH TECHNOLOGY
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No.

12th Oct., 1989

Shri T.N.Parameswaran
Under Secretary(Coordn.)
Ministry of Petroleum and
Natural Gas,
Shastri Bhavan,
NEW DELHI-110001.

Sub: Minutes of the 24th Meeting of SAC held on 21.8.89

Dear Sir,

Please find enclosed draft of the minutes of 24th Meeting of SAC held on 21.8.89 in the conference room of CHT for necessary action.

Thanking you,

Yours faithfully,

Kumar.

(ANAND KUMAR)
JOINT DIRECTOR

Encl: a.a.

The 24th meeting of the Scientific Advisory Committee was held on 24th Aug.1989 in the conference room of CHT New Delhi. The list of participants is enclosed at Annexure.

24.1 Dr.Jaya Rama Rao welcomed the members and the special invitees for the meeting of the Scientific Advisory Committee held in CHT's office for the first time.

24.2 As there were no comments on the minutes of the 23rd meeting circulated earlier, the minutes as circulated were confirmed.

24.3 FUEL ADDITIVES

Shri R.A.Rao, of Lubrizol India Ltd., said that with the tremendous boost in transport sector, the refineries had to increase the production of automotive fuels by conversion of the residual fractions into lighter products. This has resulted in both gasoline and diesel containing more cracked products leading to unstability and formation of deposits. He said that fuel additives like antioxidants and detergent/dispersants if added in small quantities to these fuels will improve their properties. He said the use of multifunctional additives in both gasoline and diesel is essential in our country to meet the product specifications and improve the performance of fuels inuse. This also will help in getting increased life of the automotive diesel and petrol engines. As some of the manufacturers are offering different additive packages for this purpose the refineries have to choose appropriate packages for incorporating in the fuels. He preferred the blending of these additives at the refineries itself to get the maximum advantage by the consumers.

In the discussion that followed, the members emphasised the importance of incorporating the fuel additives but said that the proper additives should be chosen only after their evaluation. For

this purpose laboratory studies have already been started and it is also proposed to assess them in field evaluations. It was also mentioned that some companies have set a target to complete such studies by the end of this year. The Advisory Committee recommended expeditious completion of such studies for selecting suitable additives for incorporation in the fuels so that the consumers get the correct product with optimum performance.

.4 PRODUCT QUALITY ASSESSMENT PROGRAMME

With the improvement in engine design, and the environmental awareness, it has become necessary to adjust the fuel qualities to meet these new requirements. It was earlier decided that detailed studies should be conducted in the laboratory to assess the effect of various properties on the performance of the engine and the quality of exhaust emmissions. Shri R.A.Rao said a detailed programme of work, to evaluate distillation range, cetane number, viscosity, sulphur and the olefine content on the performance of diesel engine has been prepared by Bureau of Indian Standards(BIS). Similarly it was planned to study the effect of octane number, fuel stability, composition, volatility and preingnition tendencies on the performance of gasoline engines. Indian Institute of Petroleum, IOC (R&D) and LIL are undertaking a cooperative study to complete this assessment at an early date. Based on this study recommendations will be made to BIS for amending the fuel quality standards wherever required.

The refineries mentioned that when the products leave the refinery, they meet the required specifications. However, during transit and storage, some changes can take place due to malpractices indulged by some people, or due to possible deterioration in quality on storage. Shri K.R.S.Narayan suggested that a third party can be invited to take samples of the products at various sources for

analysis and identification of the possible changes in quality. However it was mentioned that the refineries should produce products with a cushion in quality to take care of the possible deterioration in quality during storage; as it should be the responsibility of the oil companies to give to the consumers, a product meeting the quality standards ex-retail outlets i.e. at the final dispensation to the consumer.

It was also mentioned that oil companies have started a scheme of spot checking of quality at various retail outlets and dealers. Due to introduction of this scheme, possible adultration of the products has been reduced substantially. SAC noted with satisfaction the programme of work finalised by BIS and the steps taken by the oil companies to review and implement the specifications of the products completely.

4.5 SUBSTITUTE FOR TEL :

Dr.Rai of CHT made a presentation on world wide developments made till now to find alternative additive systems for TEL. He said that though many systems have been tried, none of them have been found to be as effective as TEL. The only additives that have shown success, to some extent, are the manganese compounds and even these cannot be used in higher dosage. He said another possible range of compounds are those of rare earth metals and more work is to be done on these.

There was an extensive discussion on the possible uses of oxygeneted compounds like alcohols and ethers as extenders for octane improvement. Since there is a limitation on the proportion of these compounds that can incorporated in the gasoline pool, this cannot be considered as a substitute for lead. Also these are essentially blending stokes but not additives. While there is a need to progress the study for finding substitute for lead, it should be normally understood, that the chances are limited and changes in the refining process schemes only could be considered to produce

"low" lead or "nil" lead gasoline. The SAC commended the programme of the refining companies to install additional reforming units in the refineries to meet such requirements. Prof.Sharma suggested that studies on the etherification of C_5 + FCC gasoline should be studied, since this not only gives higher octane gasoline but also solves the problems of instability of FCC gasoline. However, during the discussions, it was pointed out that the etherification of FCC gasoline will yield a product with an octane number increase of only about 1 to 2 points and so this cannot be a final solution for the problem. However, for assessing its utilitity, a detailed literature survey be made and a note prepared by IIP.

24.6 SHORTPATH DISTILLATION: PROGRESS & STATUS

IOC(AOD) made a presentation on the progress of short-path distillation project undertaken by them. They said that the technical evaluation of the bids is complete and the commercial proposal will be evaluated very soon. He hoped that the order will be placed in the next 3 months. Prof. Sharma elaborated the discussions in the earlier SAC meetings and stressed the importance of commissioning this unit early for developing the data. He hoped that within 24 months from now, the unit will be on stream. AOD representatives said that the site investigation and site grading and other civil works required for the job were completed and hoped to stick to the schedule.

24.7 DISTILLATION COLUMN INTERNALS

Shri Palit of MRL made a presentation on the various packings and other internals of distillation columns and also narrated the claims made by various suppliers regarding of their efficiency

etc. He said that these are to be verified before choosing a particular packing. Dr.Rehani of EIL said they have set up facilities in the EIL R&D Centre to evaluate various types of internals distillation columns and also to develop efficient packing materials for use in our industry.

24.8 Dr.Bhatia of Balmer and Lawrie made a presentation on the grease development work they have undertaken and the gaps in facilities they have noticed for testing and evaluation of these greases. He said that a complete facility for grease testing and evaluation should be set up in Calcutta and they can do this on behalf of the industry. Since Dr.Bhatia has not given the details of the specific equipments etc., required for such facility. It was recommended that he may prepare a detailed paper giving all the details and it can be discussed in the next meeting.

24.9 The other points on the agenda could not be taken up due to lack of time. This will be taken up in the next meeting.

24.10 Prof. Sharma said that he has been the Chairman of the Scientific Advisory Committee since its incpetions about eight years back. He said that the deliberations of this Scientific Advisory Committee are always of a high standard and this Scientific Advisory Committee is quoted as an example by other ministries of Government of India. He thanked all the members of the Scientific Advisory Committee, oil companies and the Ministry of Petroleum for the effective functioning of SAC. He suggested that it is now time for the Ministry of Petroleum to nominate another expert as Chairman of SAC.

Shri Mathur expressed his happiness and congratulated Prof.Sharma for conducting the proceedings of SAC during the last many years so efficiently and effectively and requested him to consider their invitation to him to continue as Chairman for another period of one term of 2 years. The members joined him in requesting Prof.Sharma to consider this.

24.11 The date and venue of the next meeting will be advised later after checking the possibilities of holding it at Mathura.

ANNEXURE

24TH MEETING OF SAC HELD ON 21.8.89 AT CHT.

List of participants :

S/Shri

1.	M.M.Sharma	UDCT, Bombay
2.	S.N.Mathur	MOP&NG
3.	P.K.Rudra	LIL
4.	Dr.G.Jaya Rama Rao	CHT
5.	Anand Kumar	CHT
6.	Dr.S.K.Ghosh	CRL
7.	Dr.I.Suryanarayana	CRL Jorhat
8.	S.C.Mehta	IOC R&D
9.	R.A.Rao	LIL
10.	O.K.Tuneja	BPCL Bombay
11.	Dr.J.Bhatia	Balmer &Lawrie Calcutta
12.	S.Pandarinathan	MRL,
13.	A.Rebello	CRL, Cochin
14.	Miss. M.Chaudhury	CHT
15.	B.K.Sarma	IOC(AOD)
16.	Kaushik Bora	IOC(AOD)
17.	Y.R.Trivedi	IPCL-Bombay
18.	Arvind P.Kudchadker	IIT Bombay
19.	Dr.T.S.R.Prasada Rao	IPCL, Baroda
20.	Dr.R.Krishnamurthy	EIL New Delhi
21.	D.K.Palit	MRL Dehradun
22.	B.S.Rawat	IIP, Dehradun
23.	Dr.G.C.Joshi	IIP, Dehradun
24.	Mohan Lal	IIP, Dehradun
25.	R.P.Verma	IOC-R&D, Faridabad
26.	Dr.G.P.Rai	CHT
27.	V.K.Mehandru	EIL-HMTD, PTI Building
28.	H.Ghosh	EIL-HMTD,PTI Building
29.	S.Veradarajan	AB,,13, Pandara Road, New Delhi
30.	K.R.S.Narayan	Director(R), BPCL, Bombay
31.	Dr.D.N.Rihani	EIL-R&D Gurgaon
32.	S.K.Mukherjee	DGM-PROJECTS HPCL BOMBAY
33.	Dr.P.K.Mukhopadhyay	Director(R&D) Faridabad.