

ST 1 (MTH ROAD HD <110003> ...
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Counter No: 1. (P-Code: RAVI)
To: JT SECY. MIN OF RD TRANSPORT
NEW DELHI. PIN: 110001
From: PF FEDERATION OF INDIA . NO 16
Wt: 20 grams.
Amt: 17.00 .26/12/2015 .15:20
Taxes: Rs. 2.00 <Track on: www.indianrail.gov.in>



PETROFED

o/c

Ref.No. : PF/9
December 26, 2015

Joint Secretary (Transportation)
Ministry of Road Transport and Highways
5th Floor, Transport Bhawan,
1, Parliament Street,
New Delhi - 110 001

Dear Sir,

Subject : Gazette Notifications date 27th November 2015b of Ministry of Transport and Highways on emission norms

This has reference to two gazette notifications dated November 27, 2015 of the Ministry of Road Transport and Highways (MoRTH) laying draft rules in respect of emission standards from various types of vehicles, testing, and specifications of reference fuels etc. In addition, notifications also includes specifications of commercial gasoline and diesel fuels .

In this respect, Petroleum Federation of India (Petrofed) draws the attention of MoRTH to the Enclosed Note giving detailed observations and recommendations.

The specifications for commercial fuels, both gasoline and diesel, in earlier Auto Fuel Policy were formulated by Ministry of Petroleum and Natural Gas (MoPNG) and notified by BIS. Petrofed is of the view that the same process should be followed as impact of such changes on overall fuel supplies , energy security and social factors like penetration of LPG in rural markets etc. can be better addressed by MoPNG. Additionally, BIS can also be involved to collate the views of all stakeholders.

*Received
26/12/15
26/12/15*

Mr. Anand

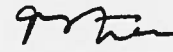
Petroleum Federation of India

Petrofed further is of the view that the date for implementation of new fuel specifications must coincide with new emission norms , both for new and old models that is 1st April 2020 as the benefits of higher quality fuels which will be made available at a cost to the economy will not be realized on old models.

Policy for Inspection and Maintenance as well as retrofitting of emission control devices on 'in-use vehicles' may also be followed to get the benefits of the improved fuels as the objective is to improve the environment.

Thanking you,

Yours faithfully,



Dr. R.K. Malhotra
Director General

Encl.: As above

c.c.: Joint Secretary (Ref.), Ministry of Petroleum & Natural Gas

Petroleum Federation of India
PHD House, 3rd Floor
4/2, Siri Institutional Area
August Kranti Marg
New Delhi-110016

Subject : Comments / Recommendations on the draft specifications of commercial gasoline and diesel included in two notifications dated 27th Nov. 2015 of Ministry of Road Transport and Highways

This has reference to two notifications dated November 27, 2015 of the Ministry of Road Transport and Highways (MoRTH) laying draft rules in respect of BS V and BS VI emission standards from various types of vehicles, testing, and specifications of reference fuels etc. In addition, notification also includes specifications of commercial gasoline and diesel fuels. In this respect, after review of these documents Petroleum Federation of India (Petrofed) draws the attention of MoRTH to the following:

- A. Ministry of Petroleum and Natural Gas (MoPNG) , vide order no. R-29011/23/2012-OR dated 19/12/2012, constituted a committee of experts under Sh. Saumitra Chaudhari to examine all issues related to roll-out of BS V and BS VI gasoline and diesel fuels and recommend a road map including specifications of these products. This committee , having membership from oil companies , MoRTH , automobile manufacturers , Ministry of Heavy Industries , Academia etc. held deliberations with all stakeholders and submitted report 'Auto Fuel Policy and Vision 2025' (AFPV 2025) on 2nd May 2014 to MoPNG. This report is under review and MoPNG is yet to take a view on this.
- B. The specifications of commercial gasoline and diesel included in draft rules are at variations w.r.t. specifications given in the above report where MoRTH was also a member.
- C. Sectoral committees PCD 3 / 3.1 of BIS is also discussing the specifications of both BS V motor gasoline and diesel to work out final specifications which will be duly notified in due course.
- D. It may also be mentioned that a committee under the Chairmanship of Dr. Mashelkar , recommended a complete road map of all activities for managing pollution from vehicular traffic. While refineries and auto manufacturers took actions to produce fuels and vehicles accordingly , it is our view that many other measures made little or no progress. These slippages accelerated the worsening of environment with economic growth and rise in road vehicle population.

E. Product-wise issues are discussed below.

E-1 Gasoline

- a. Comparison of specifications of regular grade gasoline having variations in respect to the recommendations of AFPV 2025 is given in the table 1 here.

Table 1

Characteristics	BS	BS V	
	IV	Auto Fuel Policy and Vision 2025 (recommendation)	MoRTH Notification (draft) 27/12/2015
RON , min	91	91	95
MON , min	81	81	85

- b. It may be noted that higher RON / MON of 95 / 85 respectively is largely related to engine performance and fuel efficiency and are required for higher compression ratio (CR) engines used in high performance cars for more power and acceleration in European conditions. For normal Indian conditions and cars with existing CR , 95 RON fuel is not considered necessary.
- c. Data shows that two wheelers population which constitute about 72 % (MoRTH data as on 31/3/2012) of total vehicles in India , consume about 61.4 % of the motor gasoline (Source : PPAC Survey) where higher octane will not alter the engine performance or emission levels in any manner.
- d. Above facts indicate that the country will not get commensurate benefits in environment while oil companies may have to invest huge amount in gasoline RON up gradation technologies and distribution. This expenditure will be over and above already being planned for production of BS IV and BS V fuels as per time table set in AFPV 2025. Beside, a large population of two wheeler owners which are from low income strata as well as existing car owners, will be required to pay higher price for 95 RON gasoline with no benefits to them.
- e. For limited requirements for vehicles with high compression ratio engines, premium gasoline of 95 RON is envisaged in AFPV 2025. This gasoline is already available in Indian markets.
- f. Due to limitations on aromatics and olefins contents in all types of gasolines, most of the Indian refineries will have to add Alkylolation Units for RON up

gradation where LPG components are converted to high octane gasoline component. This will be a major shift in refinery configuration which so far are considering AFPV 2025 as base document for revamping / modifications of the refineries. Thus increase in RON to 95 will need higher investments and implementation within time frame of even 1st April 2020, given in AFPV 2025 will not be feasible.

- g. This scenario will reduce LPG production in the country which is already a deficit product. According to the forecast by International Energy Agency (IEA) , consumption of LPG in India is increasing more rapidly than gasoline. Forecast shows that by 2040 , India to wipe off kerosene from urban markets and substantially reduce bio-mass fuels in rural market, will have to import 1 million barrel / day of LPG making it the largest importer of this product in the world. Thus any increase in the deficit will increase in import further putting India to higher energy security risks.
- h. Gasoline standards are in the advance stage of discussion in the sectoral committees PCD 3 / 3.1 of BIS where RON / MON of regular grade gasoline were fixed at 91 / 81 only. These were reviewed afresh in the meeting of the committee on 23rd December 2015. After deliberations , the house was of the opinion that specifications in respect of two grades of gasoline that is Regular and Premium should continue to be in line with existing specifications and the recommendations of AFPV 2025 (give below)

Characteristics	BS V / VI Gasoline	
	Regular Grade	Premium Grade
RON , min	91	95
MON , min	81	85

- i. It may be noted that the specifications of regular and premium gasolines in MoRT&H in the subject notifications differentiate these grades only in olefin contents (21% in regular and 18% in premium). World over , differentiation in regular and premium gasolines are primarily for RON / MON which are the most important performance parameters.
- j. For Refineries processing Assam crude , relaxation in Aromatic content (up to 40% compared to 35 % for all others) as been recommended by AFPV 2025. The same may be allowed .

To summarize , Increase in RON / MON to 95 / 85 in BS VVI fuels will not generate any environment benefits; will increase the cost of fuels ; cause extra financial burden on low strata income group of two wheelers who will not benefit at all.

Also this will adversely impact the Government policy of making more LPG penetration in rural markets to provide healthy and hygienic environment to rural women who are currently using bio-mass and cow-dung for cooking.

We may continue with two grades of gasolines , regular with 91/ 81 RON / MON and premium with 95 / 85 RON / MON . Shift from 91 RON to 95 RON may be left to market demand over the time.

E-2 Diesel

- a. Specifications for BS-V diesel were taken up for discussions in PCD - 3 / 3.1 , the Sectional Committees for fuel specifications of BIS. During the discussions among stakeholders, differences appeared in respect of four specifications namely (i) Recovery at 95°C, (ii) Specific Gravity, (iii) Flash Point and (iv) Kinematic Viscosity between the representatives of auto manufactures and petroleum industry. It was decided that both the groups may discuss it further and workout a common solution.
- b. Meanwhile, Petrofed on behalf of Indian Refineries presented the issues related to BS V diesel specifications to MoP&NG . A copy of the note giving detailed technical reasons and seeking revision in above mentioned four specifications of diesel from MoPNG is enclosed (annexure 1). JS (R), MOP&NG reviewed the issues with industry on 07/12/2015 and the Ministry may take a final view on these specifications shortly. *Specifications in draft rules of MoRTH also do not address the concern of Indian Refiners in respect of above four specifications.*
- c. Table 2 below gives the comparison of different specifications proposed for commercial BS V diesel. Various engine testing studies , summarized by IIT , Delhi shows that the specifications desired by the Indian refineries will not impact on emissions due to fuel quality from heavy duty vehicles. Impact from light vehicles will be statistically insignificant. No impact on engine performance in any category is expected as all related recommended parameters will remain un-changed.
- d. However, specifications proposed by Indian Refiners will improve production of diesel up to four million MT per annum from the same resources which

means reduction in import dependence to the extent of about 8.0 million MT of crude oil per annum.

IEA , in their forecast , found that status of India from net exporter of petroleum products will change to net importer by 2040 when India may import about 2.3 million barrels per day of these products to meet the rising demand. Hence , improving yields optimally from existing resources with no adverse impact on environment is desirable

- e. In the notification of MoRTH for vehicles up to 3500 kg gross weight, Cetane Index (CI) of commercial diesel (annexure IV-W) is specified at 48. This is contrast to the draft specifications of 46 of same product (commercial diesel) in the notification for vehicle higher than 3500 kg. gross weight. CI for reference fuels in both the notifications , supposed to be more stringent in quality, is 46. Cetane index is a calculated index based on a few other parameters of diesel and thus refiners may have to produce two grades of diesel and market them. Providing two grades of commercial diesel in the retail market calls for creation of extensive parallel infrastructure in all segments of downstream supply chain segments with no significant impact on environment.

Change in CI is also in variation to recommendations of 'Auto Fuel Policy and Vision 2025 and discussions in PCD-3 / 3.1 of BIS where diesel CI or all types of vehicles is considered 46 only.

Table 2

Parameter	Recommended in AFV&P 2025 / MORTH Notifications	Proposal of Indian Refiners (Under Review of MOP&NG)
Density, kg/Cu.M	820-845	860 max.
Kin. Viscosity , cst	2.0-4.5	1.8-4.5
Flash Point , deg. C, minimum	42	35

T95 (95% recovery temperature) , deg. C , maximum	360	370
Cetane Index	46 - AFPV 2025 48 - MORTH Notifications for up to 3500 kg GRT vehicles	46

Indian refiners on 23rd December 2015 during the meeting of PCD 3 / 3.1 of BIS , mentioned that flash point of diesel is not linked to emissions but a safety related parameter. India has been handling diesel with 35 deg. C flash since decades with due safety norms in storage , transportation and handling as per Petroleum Rules / OISD standards. Increase in flash point to 42 will reduce diesel production. Indian Institute of Petroleum , Dehradun has been requested to study the issue in time bound manner and place the results. House was of the opinion that till such time , current specification of 35 deg. C should continue.

- f. Specifications of diesel from North East Refineries processing Assam Crudes have been given relaxation in respect of density and cetane number. Specification for density for diesel from Assam crude is 820-855 and relaxation of 3 (three) numbers is given for Cetane Number and Cetane Index. The same should continue for BS V and BS VI fuels also. This is also in line with BIS and AFPV 2025 recommendations.

F. Time Schedule

- a. Auto Fuels Vision & Policy 2025 document recommends introduction of BS V norms from 1st April 2020 and BS VI norms from 1st April 2024. This is after detailed deliberations with all stakeholders and placing the a challenging target for all refineries. A detailed current status and rod map has been included in the AFPV 2025 report. However , Gazette notifications dated 27th November 2015 of MoRTH laying draft rules for all diesel vehicles in M and N categories, compliance dates are set as under :

Table 3

	BS V	BS VI
For New Models	1st April 2019	1st April 2021
For Existing Models	1st April 2020	1st April 2022

The steep change in sulfur level from 350 / 50 ppm to 10 ppm require introduction of high severity process units and related off-site facilities. Beside, downstream distribution network also need revamping to ensure highly quality sensitive products reaching customers. In view of these, OMCs feel that that the compliance of 1st April 2019 schedule for BS V is impractical. Original time schedule , though challenging , may be retained.

Time schedule of MoRTH specifies that new models whenever manufactured after 1st April 2019 will comply with BS V norms. This means the existing models , even produced after this date will continue to be BS IV compliant vehicles. This defeats the purpose of introducing stringent norms and higher fuel quality standards.

- b. Schedule of 1st April 2020 for BS V fuels will also coincide with the introduction of new BS V compliant vehicles in the market. Introduction of BS V fuels earlier when BS IV compliant models will still be manufactured and operating in large numbers will not give any benefit to the country as far as environment improvement is concerned.

G. Conclusion

- a. Petrofed propose the following amendments in specifications proposed by MoRTH for commercial BS V / VI gasoline and diesel along with time schedule .

Gasoline

Characteristics	BS V / BS VI Gasoline (Regular)	BS V / BS VI Gasoline (Premium)
RON , min	91	95
MON , min	81	85

Diesel

Parameter	BS V / BS VI Diesel
Density, kg/Cu.M	860 max.
Kin. Viscosity , cst	1.8-4.5
Flash Point , deg. C, minimum	35
T95 (95% recovery temperature) , deg. C , maximum	370
Cetane Index	46

All other specifications as given in AFPV 2025 report and MORTH notification dated 27th Nov. 2015 will remain unchanged.

- b. Since BIS sectoral committees are discussing these specifications , notifications of MoR&TH may provide that the same will be followed after the finalization.
- c. Refineries processing Assam crude should continue to have relaxations in specifications as mentioned in the note above (gasoline Aromatic Contents 40 % max and Diesel density at 820-855 and Cetane number 48 , Cetane Index 43).
- d. Time schedule for putting BS V / BS VI fuels , both gasoline and diesel in the market should be from 1st April 2020.
- e. Above proposal would not have adverse impact on
 - I. the engine performance or emissions (as BS V emission norms for both old and new models may applied from 1st April 2020);
 - II. availability and affordability of fuels;
 - III. energy security plans of India