India Maps a Road Toward Cleaner Air

The Ministry of Petroleum & Natural Gas, Government of India, established an expert committee in September 2001, chaired by Dr. R.A. Mashelkar, to:

✧ recommend an Auto Fuel Policy for the country, including major cities;
✧ devise a road map for the policy’s implementation;
✧ recommend suitable auto fuels and their specifications considering the availability and logistics of fuel supplies, the processing economics of auto fuels and the possibilities of multi-fuel use in different categories of vehicle; and
✧ recommend attributes of automobile technologies, fiscal measures for ensuring minimization of social cost of meeting a given level of environmental quality and institutional mechanisms for certification of vehicles and fuels, as well as monitoring and enforcement measures.

To obtain sustainability and improved air quality, the committee recommended an implementation schedule for stricter emissions and fuel regulations (as shown in Figures 1 & 2 and Table A on page 3). Seeing India’s fast growing vehicle fleet (Figure 3) and rising fuel demand, this was found necessary for the in-use vehicles and motorcycles, as well as new vehicles.

The Indian refiners are currently under pressure to meet the new regulations to be implemented April 2005. They are questioning whether sufficient lead-time for preparation was provided. It is crucial while constructing Fuel Road Maps to welcome input from all industries and provide them with sufficient lead-time to avoid these problems.

In 2003, Minister Naik proposed an ethanol mandate in India hoping quickly to improve its energy security situation and help reduce pollution from India’s transport sector while creating new jobs in the rural communities. This introduced a minimum ethanol content of 5vol% for blending with petrol in nine states. In the second and third phase of the (continued on page 2)
ethanol-blending programme, the use of petrol blended with ethanol was to be extended to the entire country and the concentration of ethanol was to be increased to 10 vol%.

More recently, some organisations within India have questioned the financial and environmental viability and social sustainability of this program, and some studies reveal there might be better solutions available for India such as the use of biodiesel. Studies show that Indian refiners have sufficient capacity and capability to be able to cover market demand without ethanol. As petrol only forms about 10% of India's petroleum product demand, a recent report published by TERI found that this program does not contribute to the overall energy security concerns of the country. Also, large tax incentives need to be provided to make the program economical to the refiners.

With these factors in mind, combined with the fact that there is currently not sufficient ethanol available, the oil ministry, led by Minister Mani Shankar Aiyar, is reviewing the policy that mandates blending of ethanol with petrol in sugarcane-growing regions.

Since ACFA believes many Asian countries are facing the same situation, as highlighted on the next page, we invited the Indian Automotive Industry to share its experience about India's petrol programmes included in the 2004 Mashelkar Report and India’s biofuels programmes.

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SIAM Reflects on Indian Fuel Policy

Q: Please introduce yourself and your organization to the readers of ACFA News.

A: Society of Indian Automobile Manufacturers (SIAM) is an apex body of the Indian Automobile and Auto engine manufacturers. It addresses issues relevant to sustainable development of the industry. It disseminates information concerning the automobile industry through activities like seminars and conferences. It also plays a proactive role in creating awareness in issues related to road safety and the environment.

Q: Please explain SIAM’s, or your members’, position about the use of ethanol in petrol?

A: The Indian petrol specifications permit use of up to 5 vol% ethanol blends. SIAM had raised concerns on material compatibility in in-use vehicles particularly with regard to rubber components. The same was also seen in the field on some makes/models of two-wheelers, which lead to carburetor flooding, deposits, etc. This required change of those components. The government desires to increase the ethanol content to 10%, which is not acceptable to vehicle manufacturers. An in-depth study is desirable before such a decision is contemplated.

Q: What is SIAM’s, or your members’, recommendation on petrol quality to achieve the future emissions regulations similar to Euro III and IV?

A: SIAM is of the firm view that fuel quality has to be upgraded to the corresponding emission regulation if the auto industry has to meet the emission regulations. SIAM has asked for the corresponding fuel quality in Europe to meet the Euro II, III or IV emission norms. This is reflected in the Auto Fuel policy the government announced.

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Petrol Fuel Specifications

<table>
<thead>
<tr>
<th>GASOLINE</th>
<th>CURRENT</th>
<th>FUTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of implementation</td>
<td>April 2000</td>
<td></td>
</tr>
<tr>
<td>RON, min</td>
<td>88 / 93</td>
<td>88 / 93</td>
</tr>
<tr>
<td>MON, min</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(MON+RON)2</td>
<td>84 / 88</td>
<td>84 / 88</td>
</tr>
<tr>
<td>Sulfur, ppm, max</td>
<td>1 000 (1)</td>
<td>500</td>
</tr>
<tr>
<td>Benzene, vol%, max</td>
<td>5 (2)</td>
<td>3 (4)</td>
</tr>
<tr>
<td>Aromatics, vol%, max</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Olefins, vol%, max</td>
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</tr>
<tr>
<td>Oxygen content</td>
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<td></td>
</tr>
<tr>
<td>Ethanol, vol%</td>
<td>5</td>
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</tr>
<tr>
<td>Ethers, vol%</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>RVP, kPa, max</td>
<td>35 - 60</td>
<td>35 - 60</td>
</tr>
</tbody>
</table>

(1) For notified areas: max 500 ppm - Petrol with 500ppm was made available in National Capital Region (NCR), Delhi from April 2000, in Mumbai from Jan. 2001 and in Calcutta from Nov. 2000. (2) For notified areas: max 1 vol%, for metros: max 3 vol%. (3) Introduced in selected cities in April 2003. (4) Benzene content in 4 metros max 3 vol% further reduced to max 1 vol% by April 2005. (5) To be introduced in selected cities in April 2005. (6) To be introduced in selected cities in April 2010. Review by 2006 will determine nationwide fuel quality specifications.
After near-misses and failed attempts to pass energy legislation in each of the past five years, there continues to be a great deal of speculation about the passage of comprehensive energy legislation in 2005 during the 109th Congress. Early signs indicate the Republican leadership – now firmly in control of the House, Senate and White House – definitely wants to send an energy bill to President George W. Bush before the end of the year. However, several factors will determine if this is nothing more than posturing by Republican leaders or the makings of real deal.

Early drafts of the 2005 energy bill include several provisions that should be familiar to the motor fuels industry:

✧ removal of the federal oxygen standard;
✧ a Renewable Fuels Standard (RFS) starting at 2.6 billion gal/year in 2005 and ramping up to 5 billion gal/year by 2012;
✧ ban of MTBE by Jan. 2015, with provisions for states to opt-out of the ban and for the president to rule on or before 2013 that the ban is not needed; and
✧ limited defective product liability protection for U.S. manufacturers of MTBE, ETBE and ethanol.

The debate surrounding the fuels provisions (MTBE and ethanol) also still appears to be the major sticking point on completing an overhaul of U.S. energy policy. Indications from a few key Congressional leaders indicate that the House will continue to strongly support the oxygenate liability language. More than a few key House leaders also philosophically oppose efforts to ban the clean fuel additive MTBE; arguing that properly maintaining petrol storage tanks is the better course of action. Many U.S. politicians also believe the 2015 ban date clearly shows that the effort to ban MTBE is motivated by politics, not policy on health or environment reasons, otherwise the ban would have to take action within months, if not weeks! They claim that a full review of all the facts about MTBE show that it does not present health or environmental concerns, leaving MTBE opponents to argue for a long-term political solution that is not based on any scientific foundation.

Meanwhile, key members of the Senate continue to oppose defective product liability for fuel oxygenates. Some in the ethanol industry already has begun calling for a significantly larger RFS (Renewable Fuels Standard) – rising to as much as 15 billion gal/year by 2015. Arguments to increase the size of the RFS have received some initial support within the Senate, while the refining industry has almost uniformly opposed this suggestion.

Ultimately, in the next few months the House and Senate will produce contrasting energy bills that will need to be reconciled. As of right now, these and other controversial issues – such as drilling in the Arctic Natural Wildlife Refuge (ANWR) in Alaska – will make near-term compromise difficult.

If agreement on a comprehensive bill cannot be reached, Congressional leaders may try to push energy issues in smaller bills, or even as part of an appropriations bill. As of now, however, key Congressional leaders have been reluctant to aggressively support this type of approach.

In the House, the Energy & Commerce Committee is moving a bill that looks similar to that which passed the House/Senate Conference Committee in 2004. Other House leaders are arguing to include additional provisions – including some controversial measures related to ANWR. It is expected the House may produce a bill by April or May.

Meanwhile, the Senate will look to draft a new bill encompassing provisions that can find strong bipartisan support if it hopes to pass comprehensive energy legislation. Two committees – the Energy & Natural Resources and Environment & Public Works – will each hold hearings in the next few weeks to address various provisions included in the Senate’s version of the energy bill. Even though the Republican majority increased in the Senate in 2005, it remains to be seen whether there are enough votes to support controversial liability and ANWR provisions.