
OPERATIONAL EXCELLENCE

- Energy Market Regulatory Authority (EMRA) was established at the end of 2001 to regulate all activities in the Gas, Power and Oil Products Markets.

- Petroleum Market Law has been in force since December 2003.
 - Technical Criteria
 - National Marker
 - Licensee (Depot – Transmission – Distribution – bunker – lubeoil production – bio diesel etc)
 - Tariffs
 - Audit
 - Information System and Declaration Obligations
 - Dealer Audit System

- LAW Against Contraband Petroleum Products (... 2007) is directly related to National Marker applications. Any product which does not contain an acceptable level of national marker is regarded as contraband fuel. Responsibles are treated as contraband traders.

- EMRA is the single authority for the domestic petroleum products trade in TURKIYE.
- Every necessary permission and local license must be obtained before getting permission and license from EMRA .
- EMRA doesn't control fully transit product depots and trade.
- Dual purpose (transit and domestic) depots are under the control of EMRA and any product handled in these depots must be in line with all regulations and legislations.
- EMRA controls the product quality and national marker levels at depots and dealer stations.
- Depot owners must inform and get permission/approval from EMRA to change the content of product in the tanks. (diesel to gasoline or to black products etc.)
- Depot Owners must analyze and assure the quality of the product either in their own accredited laboratories or other accredited laboratories.
- Licensed depot owners can only accept store and deliver on spect products in line with Technical Ciriteria Legislation.

TECHNICAL CRITERIAS

- Products must be named and marketed in line with the legislation.
- All specifications (Sulphur, CFPP, lubricity etc.) are determined by EMRA.
- Ex Refinery or Imported products must fully comply with the regulations. Level (I) full analysis report is required to sell the product from a refinery or to import from any source.
- Products must be tested according to Level (II) analysis (specified number of tests determined by EMRA, distillation, density, flash point, CFPP etc.) at depots. All products must fully comply.
- All of the tests must be performed by Accredited Laboratories.
- POAŞ has its own built in accredited laboratories at 9 Locations just for this purpose. 22 qualified personnel are working just for quality assurance.
- EMRA has the right to take samples at any time from any tank.

TECHNICAL CRITERIAS & AUDIT

- Two bottles of samples must be taken from each released tank by an independent surveyor.
- Independent Surveyor and depot owner and product owner must keep one of the samples for at least 90 days. In case of any legal action, the sample must be kept by everyone without any time limitation.
- Gasoline samples must be stored according to the standard at +4 oC. Diesel samples at room temperature.
- Product owner has to submit analysis report and national marker and seal declaration with each invoice.
- Inconvenience will be penalized.
- Trade between distribution companies is subject to permission of EMRA. Exceeding limits will be penalized.

NATIONAL MARKER

- All kind of general purpose Gasoline and Diesel fuels must be marked with National Marker. According to law, Fuel Oils and kerosene will be covered in the coming years. Aviation fuels are excluded.
- Any product that does not contain any or enough amount of National marker will be treated as **contraband fuel**.
- National Marker must be added to the products after customization process.
- National marker must be added during transfer from bonded tanks to nationalized product storage tanks.
- It is not possible to customize products on board and directly transfer to the national product shore tanks.
- It is not possible to customize and start to sell product immediately after customization from bonded tanks.
- Storage and application of National Marker needs max attention. Application rate ise 8ppm. Any loss will be heavily penalized. (The total tax loss of the government, calculated over the amount of product with highest SCT rate by using 8 ppm dosage)

NATIONAL MARKER

- All applications must be performed under the supervision of an independent and accredited surveyor.
- EMRA can control the amount of National Marker stock of a company at any time at any location.
- National Marker must be stored at secured and air conditioned rooms.
- National Marker injection equipment must be confident.
 - POAS is using National Marker Injection Systems running with Pressurized Nitrogen. No Pumping equipment is required. No evaporation loss. No pump or seal problems.
- National Marker level must be between 97-110.
- Any tank containing lower/higher level of National Marker than specified values will be sealed by Authorities.
- National Marker is sensitive to sun light.
- Different crude origins may cause different and off spect marking results. If the level is low permission from TUBİTAK must be obtained.

NATIONAL MARKER

- Particulates, temperature, used sample cups etc. may change the result. Settling time is an important factor.
- EMRA controls the level of National Marker with 3 different devices.
 - One is used by refineries and depots. Marker K
 - The other one is used by local authorities. Marker XP
 - Last one is an complex analyzer used by TUBİTAK.
- Binding result is taken by TUBİTAK.
 - If the test fails !!!! Legal Actions will be taken by authorities.
- At every step Depot Owners and operators must check and record national marker levels. In case of any decrease in levels, operators must contact EMRA immediately. Every measurement is followed and recorded by TUBİTAK and EMRA online.
- Governmental Institutions accept products after national marker control. In case of any problem dealers' vehicles are sealed until the result is validated by TUBİTAK.

Need for Automation and Operational Excellence

- In addition, the sector is required to submit detailed data to EMRA on a regular basis.
- Auditors from EMRA and other Governmental Institutions (coast guards for example) may visit facilities or dealer gas stations or even fishermen's boats and perform National Marker controls.

A depot owner ;

- Must be ready to supply all required information in a very short time,
 - Must fully comply with the regulations
 - Must be confident of the handled product
 - Must give correct information.
- All of the charges explained above make the operation extremely difficult and complex. In order to control every operation, Automation levels of the facilities must be increased. Customers and EMRA expectations are increasing day by day. Only Operationally Excellent companies and facilities can answer this need accordingly.

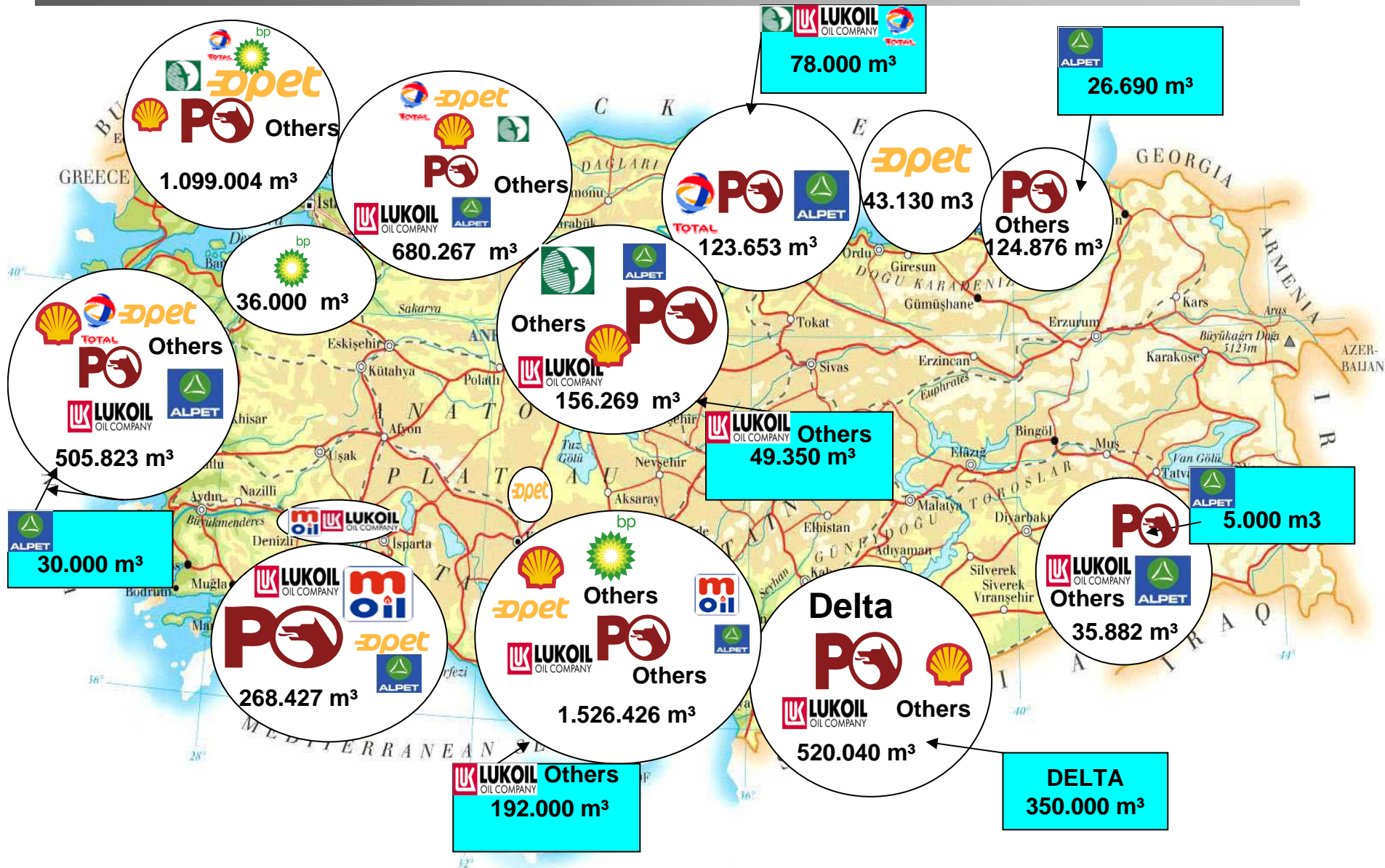
90 Day National Stock Obligation

- Turkish Government is about to pass a law to maintain 90 days of National Stocks in order to provide petroleum supply security and fulfill its obligations as per international treaties. Accordingly, in addition to the current 20-Day National Stock Obligation; refineries and fuel importing companies will be required to stock complementary fuels in proportion with their respective share of Turkey's net imports.
- The complementary stock obligation will be fulfilled incrementally within 5 years.
- A National Petroleum Stock Agency will be set up to control & coordinate Turkey's stocking operations.
- According to Petroleum Law 5015, POAS has an obligation to maintain a minimum of 20 days of stocks (based on previous year's sales). In order to maintain smooth operations without going below 20 days, Distribution Companies must maintain min 2 days of additional stocks (jet fuels and tank bottoms are excluded in these calculations as per Petroleum Law 5015).

90 Day National Stock Obligation

- In the present context of the draft; every year the National Petroleum Stock Agency will determine the complementary stock requirement by calculating 90 days of Turkey's previous year net imports, deducting the national compulsory stock obligations for refineries, distribution companies, and LPG companies (as per the Petroleum Market Law 5015), and declaring the resulting complementary stock requirements (with a +/-20 % variation on each imported product category).
- According to the draft, financial and operational expenses of the complementary stock requirements are to be determined and paid by the Government to the importers. However, CAPEX requirements for storage investments will be undertaken by the importers.
- It will be possible to keep complementary stock by bonded products.

Product Storage Capacity of Turkey 5.100.000 m³



Need For Capacity

As a case study ;

- Net import of Turkey is expected to be 25.800.000 tons in 2008.
- 90 days stock level will be 6.362.000 tons for 2009.
- Complementary stock level will be 3.600.000 tons
- TUPRAŞ will be responsible from 2.450.000 tons
- Remaining 1.150.000 tons will be the obligation of the other LPG and Fuel importers.

- Current capacity is not enough to keep 90 days storage obligation of Turkey.
- It is not possible to fully utilize current storage capacity due to regulations. Regulations cause inefficiencies.

- Additional depot capacity is clearly required for net importers.
- Depots near main consumption areas and having a big amount of capacity with both sea and land transportation opportunities will have higher chances for rental purposes.
- If a company has approximately %10 import ratio, it will need 350,000 m³ additional storage capacity.
- As the amount of the net imports and import shares increase, need for storage capacity also increases.

Turkey has opportunities for depot operators but the candidates must be very careful with regulations and legal obligations. Capacity requirements must be calculated according to number of operations (e.g. National Market operations, customization process).