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W. F. Pascoe, Esq.,
Tanker Tonnage Committee,
c/o The Petroleum Board,
P.O. Box No.148, Shell-Mex House,
STRAND, W.C.2.

25th November, 1943.

Cleaning and Repairing of Tanker
Compartments which have contained
leaded gasoline.

Dear Mr. Pascoe,

Thank you for your letter of 24th November in reference to the above.

I have read with great interest the exchange of cables between Mr. K.E. Balsillie and the Standard Oil Co. of New Jersey; also the copy of the regulations covering "The cleaning, gas-freeing and inspecting of Cargo tanks of tank vessels" issued by the Standard Oil Company of New Jersey, under date of June 15th 1942.

Dr. Kehoe, at the meeting held at Shell-Mex House on 15th October last, stated that he had not up to that time had the opportunity of discussing with the American Tanker operating companies the question of special regulations for the cleaning and repairing of Tanker compartments which had contained leaded gasoline, but in view of the very comprehensive information which he had gained at the meeting, he would take the matter up with them immediately upon his return to the United States.

This may possibly explain why no specific reference is made to any lead hazard in the regulations issued by the Standard Oil Co. of New Jersey and also the reference in their cable to the avoidance of skin contact with leaded spirit. The regulations in question are, I think, an excellent example of those referred to in the opening paragraph of our draft regulations, i.e., ".....existing regulations for the avoidance of fire, explosion, and toxic hazards in handling gasoline, as enforced by individual oil companies or other agencies."

I think we can say that the specific problems arising from the large scale transportation of leaded gasoline by Tanker have come to light earlier in this country than in the U.S.A. by reason of the questions raised here in regard to the carrying of edible oils, water and grain in such vessels.

In view of the potential hazards which, in our opinion, exist we believe that regulations along the lines of those already submitted to you in draft are essential. The only alterations which I wish to make are primarily ones of phraseology to bring the proposed regulations into line with those we

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have already agreed with the oil companies here for the cleaning and repairing of shore tanks. I enclose twenty (20) copies of our revised draft.

Dr. Kehoe has, unfortunately, now left the country, and whilst he may be returning here for a few days on his way back to the United States, this is doubtful. Both Mr. Fossett and myself would be available to attend a meeting at any time convenient to yourselves other than Tuesday, November 3; or the morning of Friday, December 3rd.

As requested, I am returning herewith the copy of the Standard Oil Co. of New Jersey regulations which you so kindly sent me.

Very truly yours,

T. R. A. Bevan.

Enclosures
20 copies draft
regulations..

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THE ASSOCIATED ETHYL COMPANY LIMITED
LONDON
REGULATIONS GOVERNING THE CLEANING & REPAIRING OF STORAGE
TANKS WHICH HAVE CONTAINED LEADED GASOLINE

Date of Issue : November 1943.

SECTION IV OCEAN TANKERS and BARGES.

General

The regulations contained in this booklet are to be regarded as supplementary to any existing regulations for the avoidance of fire, explosion and toxic hazards in handling gasoline, as enforced by individual oil companies or other agencies. They represent the minimum requirements for the avoidance of lead exposure.

When cleaning or repairs are to be carried out inside a tank or compartment of a vessel (hereinafter referred to as a compartment) by the employees of a contractor (and not under the direction and supervision of the owners of the vessel), the owners shall inform such contractor of the hazards associated with such work, and acquaint him with the regulations under which the work is to be done.

(i) A minimum of six sets of the following protective equipment must be kept available on each vessel, each set to comprise :-

- 1 pair of heavy rubber or acid-proof gloves in sound condition;
- 1 pair of rubber boots of good quality and in sound condition;
- 1 full face-piece positive-pressure airline mask;
- 1 suit overalls (e.g. a boiler suit or oilskin suit);
- 1 set of underwear and socks.

In addition to the above, one efficient respirator for the prevention of dust inhalation, and one pair of goggles (unless these are combined with the respirator), may be included in each set of equipment.

(ii) No person shall be permitted to enter any compartment which has at any time contained leaded gasoline unless authorised to do so by a responsible officer, who shall satisfy himself as to the condition thereof and shall determine which of the following two sets of regulations (Schedules A and B) are necessary for the full protection of the workmen.

Schedule A The regulations under this schedule are applicable to compartments which after washing and/or steaming-out present a small amount of residue of a wet sand-like nature, which consists only of small particles or pieces of scale damped with water.

Schedule B. The regulations under this schedule are applicable to compartments which after washing and/or steaming-out present an unusual amount of scale, together with a residue of a slimy or mud-like nature, which consists of a mixture of materials that have separated out from the gasoline. These materials tend to form a slimy deposit in which particles or pieces of scale are suspended and covered, and by which droplets and vapours of gasoline and lead compounds may be retained, and from which such vapours may be released on agitation.

NOTE: If it is known that the compartment was thoroughly cleaned before the introduction of ballast and that the "mud" on the bottom is composed primarily and almost exclusively of deposited material from the ballast, then regulations specified under Schedule A may

SECTION IV

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(i) A minimum of six sets of the following protective equipment must be kept available on each vessel, each set to comprise :-

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Schedule A The regulations under this schedule are applicable to compartments which after washing and/or steaming-out present a small amount of residue of a wet sand-like nature, which consists only of small particles or pieces of scale damped with water.

Schedule B. The regulations under this schedule are applicable to compartments which after washing and/or steaming-out present an unusual amount of scale, together with a residue of a slimy or mud-like nature, which consists of a mixture of materials that have separated out from the gasoline. These materials tend to form a slimy deposit in which particles or pieces of scale are suspended and covered, and by which droplets and vapours of gasoline and lead compounds may be retained, and from which such vapours may be released on agitation.

(Note: If it is known that the compartment was thoroughly cleaned before the introduction of ballast and that the "mud" on the bottom is composed primarily and almost exclusively of deposited material from the ballast, then regulations specified under Schedule A may be applied).

Regulations Schedule A.

- 1) Persons entering the compartment and handling any equipment therein must wear heavy rubber or acid-proof gloves and rubber boots of good quality and in sound condition.
- 2) The inner surfaces of the compartment must be kept wet during the entire process of topping up.

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Cleaning & Repairing of Tankers

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3) For any major cleaning operation which may create dust in the atmosphere of the compartment the use of an adequate respirator is necessary. Airline masks of the full face-piece positive-pressure type are preferable; alternatively, efficient respirators for the prevention of dust-inhalation may be used. Goggles must be used in conjunction with such dust respirators.

Regulations Schedule B.

1) A blower-type or positive-pressure full face-piece airline hose mask must be worn by any person who enters a compartment which has at any time contained leaded gasoline and which has not been thoroughly cleaned. This applies not only to cleaners, but to all others who may go into the compartment for any purpose.

2) Hoselines for air masks have a limited life and must be kept clean. If a workman notices any odour such as gasoline while wearing his mask, he must leave the compartment at once and find and remedy the cause.

3. All workmen must change into special clothing consisting of clean overalls, shirts, underwear (in cold weather) and socks; also heavy rubber or acid-proof gloves and rubber boots of good quality and in sound condition.

4. Clothing must be changed (and laundered) and a bath must be taken every day, either at the end of each day's work or when the job has been finished. If at any time the clothing gets soaked with sludge, the workman must bathe at once and put on clean clothes. At the end of each day, and after the job has been completed, respirators, boots, gloves and tools must be thoroughly cleaned. Before taking any meals, the face and hands must always be washed, and clothing must be changed if inspection shows that it is badly contaminated.

5. Sludge or scale is dangerous to handle even after it has been taken out of the compartment. It should be kept wet and buried at once in a place where it will not be uncovered later.

PRECAUTIONS FOR REPAIRMEN

Before welders or repairmen are permitted to enter, the compartment should be thoroughly cleaned. Such cleaning implies the removal of all scale which may be dislodged from the inside surfaces during the course of repair operations. Unless this procedure is adopted, repairmen will be required to follow the regulations specified under Schedule B.

Attention is drawn to the possibility that dust, scale or sludge may remain on ledges or projections in the compartment, or may settle there during the course of the cleaning operations. It shall be the duty of the responsible officer in charge of cleaning to see that these sources of dust or vapour are removed, so as to prevent exposure during any subsequent operations in the compartment.

Welding or other hot work should never be done until the compartment has been cleaned and all areas which may get hot are scraped down to clean metal. If after cleaning and owing to extraordinary circumstances, dust, hot fumes or gasoline vapours are generated in a localised area within a compartment, an airline mask should be worn.

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