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"COAL FOR THE NAVY."

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Lecture Delivered  
by  
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at the

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1. From a careful investigation of all the coal fields throughout the United States it has been found that certain fields produce coal which is highly satisfactory as a naval fuel. This high grade coal is found to be located in the Pocahontas and New River mines of West Virginia, and in certain mines of Maryland the George's Creek coal is obtained, while the Eureka coal is mined in certain parts of the Pennsylvania fields.

2. In the purchase of what is known as "Navy Standard Steaming Coal for use Afloat", competition from other than the many companies handling these coals is not invited, for the reason that coal is now obtained at the lowest market rate from acceptable suppliers selected by the Department after years of experience in buying coal, and from those whose resources and facilities are such that a uniform quality can be supplied in large quantities on short notice. Naturally those who have stood by the Navy in times of business stress, furnishing coal at the usual rates upon call, without regard to commercial conditions, and whose coal possesses such steaming properties and characteristics that the necessary horsepower may be developed with the limited combustion

spaces of modern high powered vessels, are preferred. Under these conditions the Department has followed strictly the plan of obtaining its coal through negotiations with the largest operators and suppliers of established commercial reputation in the Pocahontas, New River, George's Creek and Eureka coals.

3. It must be emphasized that military vessels should not and must not load into their bunkers any other coal than that which gives the largest cruising radius. Before the Spanish War it was customary to secure competition for the Navy's coal supply. This competitive system resulted in the delivery of a comparatively inferior quality of coal by firms upon whom the Navy could not rely, in an emergency, for a sufficient supply; and the use of their inferior quality of coal caused not only considerable damage to the furnaces and grates of ships, but reduced their steaming radii, and thereby defeated the prime requisite for a military coal. Strikes, tie-ups, unforeseen accidents and other reasons have compelled the Navy Department to depend upon those suppliers from whom it can always obtain, even in times of commercial stress, the coal needed. About six

years ago a strike of well known proportions, affecting all business interests throughout the Atlantic seaboard, would have materially injured the military efficiency of the naval service, were it not for the fact that at least two of the large suppliers furnished the Navy all the coal it needed, although both of these firms could have sold their coal in the open market at a figure 100% higher than that at which it was sold to the Navy.

4. The interests of the Government require that vessels and fleets move quickly and unexpectedly, and the sources of supply of steaming coal must be such that these conditions can be promptly met. The Department is now able to meet the needs of the fleet, from a military point of view, by obtaining and maintaining a supply of coal under the conditions cited. These conditions have no parallel in commercial business, and the practice followed is authorized by law.

5. As has already been stated, the policy of the Department is to recognize those coal suppliers who have the necessary facilities and the control of mines to furnish, when needed, the required amount of coal of

the high standard necessary to be maintained. Keeping in mind the fact that the purchase of coal is one of the greatest military importance, and that the continuity of supply to the Fleet must be insured in times of war or business stress as well as in times of peace, it will be readily seen that the supply of coal is a matter upon which the Department cannot place too high a value, and the coal suppliers on the acceptable list should find business with the Department most attractive, and the prestige gained thereby should cause them to make exceptional efforts to meet any unforeseen and emergency demands which must of necessity arise in any military establishment.

6. While it is an asset of the Navy Department to have certain suppliers upon whom it can depend when warlike conditions arise and coal is scarce, it is also a considerable distinction for the suppliers to be able to state that they are on the acceptable list of the United States Navy for furnishing steaming coal. One supplier, whose methods of business did not come up to the standard which the Department has for so long tried to maintain, was recently dropped from the list of suppliers. In his efforts to be returned to the acceptable list, he advised the Department that he de-

sired to be returned to the list even if no coal was purchased from him, and that if other suppliers and large purchasers heard he had been dropped from the list, "it would so seriously injure his standing in the business world as to make a complete recovery extremely difficult."

7. It is understood that the British Admiralty purchase coal from certain selected suppliers to whom they pay about two shillings per ton above the market rate. The contracts of the United States Navy are made usually at the average market rate. Our Navy today has probably the reputation of using the best coal in the world, and those officers who are responsible for its purchase and inspection, as well as the engineer officers of ships, whose duty it is to obtain the best results from the coal supplied, should make every effort to uphold the reputation already gained.

8. Names of fields. Coal from the Pocahontas field is delivered over the Norfolk & Western R. R. to Lambert's Point, Va. New River coal is obtained over the Chesapeake & Ohio and Virginian Railroads, with tide-water outputs at Sewall's Point and Newport News, Va. George's Creek

coal is obtained from the Allegany County section of Maryland, and is brought to Baltimore over the B. & O. R. R., while the outlet at Philadelphia and New York for this coal is over the Pennsylvania lines.

Eureka coal from the Pennsylvania fields is delivered at New York and Philadelphia also over the Pennsylvania lines.

9. Having in mind the different coal fields, the best mines of these fields have been selected for the Navy Acceptable list of Standard Steaming coal. The reputation and facilities of the various suppliers and operators who have control of the marketing and output of these mines are made the subject of a careful investigation. In the selection of mines, arrangements are made by the Department whereby fuel experts from the Bureau of Mines visit the coal field and mines designated to be examined, and make careful, detailed reports as to the exact location of the mines, the name of the coal bed or seam, the trade name of the coal, the name of the operators, the name of the selling agent, the average daily output of the mines, and the general character of the coal. Mine samples from the entire thickness of the coal seam

are taken from different sections of the mine and carefully analyzed at the Government laboratory. Samples of coal are also taken from coal cars at terminals, and forwarded to be analyzed. Finally, such further data is gathered as will help to determine whether or not the character of the coal will be acceptable for naval steaming purposes.

It is necessary that particular attention be given to the selection of mines. Certain coal companies, making application to furnish the Navy with steaming coal, will state that their coal is of a certain trade name, when it is known by the Department that this particular coal bed was long ago exhausted. This rigid investigation is also necessary because from different parts of the same coal field good and bad coals are obtained.

10. Each supplier concerned is advised as to which of his mines are acceptable for supplying the Navy with coal. Each naval coal inspector at the different loading piers is furnished with a list of acceptable mines, coal from other than acceptable mines not being allowed to be loaded. In the event of there being any doubt based upon the



results of the chemical analysis of samples, a steaming test under actual conditions is sometimes resorted to, and this method is the most reliable in determining the good or bad qualities of a steaming coal.

11. The coal inspectors at the loading piers, who are usually Machinists or Chief Machinists under the cognizance of the Bureau of Steam Engineering, (which Bureau has charge of the inspection of all coal and other fuel for the Fleet,) are charged with the inspection of all coal before loading. These inspectors make a careful examination of the coal as it appears on the cars, rejecting those cars showing bone, slate, or dirt, or not grading at least 40% of lump, and take samples of coal representing the different mines during the loadings for the Navy. Such samples are gathered usually by holding a bucket or shovel under the coal car as it is being dumped. The samples at the Hampton Roads piers are put through quartering and mixing machines, and when the final sample is obtained, it is placed in sample cans and carefully marked and forwarded to the Department to be chemically analyzed.

Every effort is made to make the sampling as thorough and as efficient as possible. The chemical reports on these samples are made the basis of determining whether or not the contractor is furnishing coal up to the standard. The best of coal may sometimes give poor results if it is not properly cleaned of bone partings and roof and slate or sulphur bands which have become mixed with the coal when mined. Each sample taken represents a certain mine, and when reports of analysis of samples are received they are carefully gone over, particular attention being paid to the ash content.

12. The coal inspectors at the piers witness the weighing of coal over automatic scales, and it is rarely, if ever, that errors have occurred in the weight taken by these machines. This is a commercial practice, and the weights recorded are made not only the basis of payment for the coal loaded, but also the basis upon which the railroads make claim on the coal supplier for freight charges on the coal from the mine to the loading piers. One large supplier found a difference of only a quarter of one per cent between the weight taken at the mines

and the weight determined at the coal piers on shipments amounting to over 1,500,000 tons.

13. When the coal inspector is notified that barges or colliers are to be loaded, he obtains from the Yard Master at the piers a list showing the numbers of the cars to be loaded. Careful inspection is then made at the coal yard and all coal cars which contain too much slack or too much slack and slate and other impurities are rejected, the numbers of these cars being given to the Yard Master, who eliminates them from the loading. Rejections are always made a matter of special report to the Department, which in turn advises the coal supplier. The reports of analysis on coal received are forwarded to the coal supplier concerned, to the Bureau of Steam Engineering, to the Master of the Collier, and to the Navy Yard or Commander in Chief of the Fleet, depending upon the final destination of the cargo. Reports of inferior coal from the Fleet are made a matter of special investigation in order to determine why inferior coal was delivered to the Navy. The report is made a matter of special record on the Department's files with each supplier. For easy reference, a "Com-

plaint case" is made for each supplier, and when reports of inferior coal are received, they are filed in this Complaint Case, and if further deliveries of inferior coal are made from the same supplier, the amount of his requisition is reduced, or, if the complaint is serious enough, the supplier is eliminated from the acceptable list.

14. By listing reports of each mine, the Department is able to determine whether or not coal from certain mines is running up to the standard. If it is evident that inferior coal is being received from any one mine such mine is eliminated from the acceptable list.