

## **The Classification of Illinois Coals Under the Operation of the Guffey Bill\***

G. H. Cady

*Illinois State Geological Survey, Urbana, Illinois*

The Bituminous Coal Conservation Act of 1935, better known as the Guffey Bill, designed to stabilize the industry, is symbolic of a change that is taking place in the minds of the citizenship toward our solid mineral fuels. This change is revealed in the recognition given in the body of the bill to the fact that differences existing among coals affect their absolute value. The effect of the bill is to establish a schedule of prices which will reflect the actual differences among coals, thereby eliminating from any market those coals which, if equitably priced, would necessitate a mine price below the cost of production. With the bill in operation there would theoretically be no choice among the coals offered for sale at any market. All would be fairly graded with respect to actual value. Thus the bill states: "minimum prices . . . shall reflect the relative market values at points of delivery in each common consuming market area of the various kinds, qualities, and sizes of coal produced in the various districts."

Following the terms of the law it became necessary for each district board to establish these equitable prices at points of delivery for each variety of coal produced within the several mining districts in the different states. Serious difficulties faced many of these boards because of the absence of reliable data in regard to the coals over which they had jurisdiction, to say nothing of the absence of any reliable classification.

The paragraph in the bill relating to coordination of prices and regulations states that all minimum prices "shall be just and equitable and not unduly prejudicial or preferential." This statement should probably be regarded as the usual legal redundancy in explanation of the phrase "shall reflect . . . relatively market value." However, undoubtedly those who would be adversely affected by price rulings in accordance with relative market values would appeal for special consideration on the ground that such rulings were "unjust and prejudicial" with respect to their product under the previously existing competitive price conditions.

Price conditions at the time when the Guffey bill went into operation had generally been determined by boards operating under the authority of the National Industrial Recovery Act popularly designated

\* Published with permission of the Chief, Illinois State Geological Survey.

NRA. These boards did little more than "freeze" existing prices previously built up through competitive practice and as determined by the judgment of the members of the board. It is said that factors such as the following actually determined prices but it is not known how their relative importance was evaluated:

- Commercial analysis
- Ash fusion temperature
- Appearance
- Physical structure and friability
- Marketability
- Degradation in transit
- Storage qualities
- Consumer preference
- Plant performance
- Effect on plant maintenance
- Market and price listing.

We see that each board found itself instructed, on the one hand, to fix prices so that they should reflect relative market values, and, on the other hand, to avoid action likely to be assailed as "prejudicial" to previously existing advantages. Obviously the law, if carried literally into full effect, would constitute a serious infringement on the competitive marketing of coal as the system has been built up.

The boards turned to their task with vigor. The establishing of an equitable price scale required some basis of classification. Many states have so little public information on the classification of coal that the only possible method of evaluation was that used by the NRA boards, a classification by "the best judgment and experience of persons who have spent years in producing and marketing coal," thereby tending to perpetuate the *status quo*.

In Illinois a somewhat unusual condition existed because shortly before the Guffey bill was put into effect and the Bituminous Coal Producer's Board for District 10 (Illinois) was established the State Geological Survey published a classification of Illinois coal by rank in accordance with the tentative standards of the American Society for Testing Materials issued in September 1934. The classification was based upon evidence that had been accumulating for more than twenty years and was so thoroughly authenticated by time and experience that the neglect of such data by the Board was a remote possibility.

In this State, therefore, as in no other, the price-fixing board found it possible to take very literally the admonition of the law to establish prices "to reflect relative market value" at least to the extent that such prices could be fixed by rank, ash, and sulfur values. The board used the data supplied by the Survey as a basis for evaluation of the coals in the various districts, employing county averages weighted with respect to production. The value used for comparison was the "as received" value based upon rank, and the average ash values with heat of sulfur

eliminated. So far as coals were mined and prepared in essentially the same way this would give values essentially equitable for all sizes.

No other factors were used in evaluation, such as agglutination, ash-softening temperature, weathering characteristics, etc., because of the impossibility of placing definite evaluation on such factors with respect to all types of combustion devices.

This basis of evaluation was undoubtedly rational in character and based upon well substantiated evidence for Illinois coals. However, it is realized that the heat value of a coal is not the only basis for selection if imperfect combustion devices are used. There were therefore cogent arguments advanced against the strict application of the evaluation based upon calorific properties. To meet this objection the Board devised a scheme of adjusting the values based upon the calorific index so that they would agree more nearly with the prices previously set by the NRA authorities. That is, in the case of most coals 60 to 80 per cent of the price was determined by differences in calorific value and 20 to 40 per cent by previously established prices plus 15 cents. Although such a scheme to a considerable extent vitiated the effect of classification in accordance with actual and measurable differences it is considerable satisfaction to know that the standard method of classification was recognized and given consideration in classifying Illinois coals.

How was this classification applied to determine the price of coal to the purchasers (dealer or consumer)? First it was necessary to establish a basic price for Illinois coal. This was done by a study of mine costs and resulted as fixing \$2.60 per ton for lump coal and \$1.50 for screening—an average of \$2.05.

These were the basic prices for southern Illinois coal since this coal was valued at 100 per cent. Therefore, \$2.60 (or \$1.50) plus average freight rate to a market area established the basic price for southern Illinois coals. From this value was then established the local price of coals from other producing districts on the basis of 60 per cent or 80 per cent scientific classification and 40 or 20 per cent NRA price + 15 cents. The freight rate to the particular mining district was then deducted, giving the mine price. By a system of averages standard differentials between districts were established such that in the large northwestern market area Belleville-Central Illinois coal would be priced at \$1.95 and northeastern Illinois coals at \$2.25 as compared with \$2.60 for southern Illinois screenings.

For local markets within the coal field, mine prices were made by applying scientific and NRA ratings + 15 cents directly to the basic price of \$2.60. Thus we have prices varying from \$2.60 to \$3.25. In some instances it is quite apparent "intangible factors" are more important than scientific classification in fixing mine prices.

For coal shipped to local consuming market compensation is made for difference in freight but definite minimum mine prices are established varying from \$2.30 to \$1.80.

After a satisfactory method of classifying Illinois coals had been accomplished, adjustment with other districts became necessary. Such adjustment has not been consummated. After numerous conferences, however, standards of classification for all coals were adopted, March 21, 1936 and the following rules were made:

In making classification of coals, all pertinent factors, including those set forth below, shall be given due consideration by the District Boards:

- (1) Proximate analyses; namely, moisture, ash, volatile matter, fixed carbon and sulfur, B.t.u's and ash softening temperature, analysis of ash, and ultimate analysis of coal.
- (2) Physical characteristics.
- (3) Plant performance characteristics.
- (4) Market history and sales experience.

Just what the members of District Board for District 10 will do in the way of conforming to this ruling is difficult to foretell. It can be safely stated that classification can be satisfactorily achieved using some of the items but is entirely impossible on the basis of others. It seems probable that the board will stand pat on the conclusions that have been obtained on the assumption that values are based on the only substantial data available.

Of considerable importance to coal geologists and other technicians interested in coal is the attention that the successful operation of the act will undoubtedly require in the field of scientific classification and empirical tests. Undoubtedly the technicians will devise more and more methods for measuring such characteristics of coal as have a definite application to use. Correlation of such empirical data in order to permit substantial generalizations will require more careful investigations of the immediate physical and chemical properties of coal whereby variations arising from differences in type and in rank may be more thoroughly understood. This act of Congress has given a tremendous impetus to coal geology that undoubtedly will be recognized in the schools and colleges as well as in technical laboratories.