NOTICE OF PROPOSED RULE ADOPTION

FILED
SEP 12 2006
MISSISSIPPI
SECRETARY OF STATE

STATE OF MISSISSIPPI
MISSISSIPPI MAJOR ECONOMIC IMPACT AUTHORITY (MMEIA)

Mississippi Development Authority
C/o Shana Watkins Harrell
Financial Resources Division
P.O. Box 849
Jackson, MS 39205-0849
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Specific Legal Authority authorizing the promulgation of Rule: Sections 29-7-1

Reference to Rules repealed, amended or suspended by the Proposed Rule:

Explanation of the Purpose of the Proposed Rule and the reason(s) for proposing the rule: The proposed rules and regulations most be adopted inorder for the MMEIA to carry out it's legislatively assigned duties of issuing seismic permits for onshore state-owned lands under MMEIA jurisdiction.

This rule is proposed as a ☒Final Rule, and/or a ☐ Temporary Rule (Check one or both boxers as applicable.)

Persons may present their views on the proposed rule by addressing written comments to the agency at the above address. Persons making comments should include their name and address, as well as other contact information, and if you are an agent or attorney, the name, address and telephone number of the party or parties you represent.

Oral Proceeding: Check one box below:

☐An oral proceeding is scheduled on this rule on Date: {Insert Date} Time: {Insert Time}
Place: {Insert Place}

If you wish to be heard and present evidence at the oral proceeding you must make a written request to the agency at the above address at least _____ day(s) prior to the proceeding to be placed on the agenda. The request should include your name, address, telephone number as well as other contact information; and if you are an agent or attorney, the name, address and telephone number of the party or parties you represent.

☒ An oral proceeding is not scheduled on this rule. Where an oral proceeding is not scheduled, an oral proceeding will be held if a written request for an oral proceeding is submitted by a political subdivision, an agency or ten (10) persons. The written request should be submitted to the agency contact person at the above address within twenty (20) days after the filing of this notice of proposed rule adoption and should include the name, address and telephone number of the person(s) making the request; and if you are an agent or attorney, the name, address and telephone number of the party or parties you represent.

Economic Impact Statement: Check one box below:

☐The agency has determined that an economic impact statement is not required for this rule, or

☒The concise summary of the economic impact statement required is attached.

The entire text of the Proposed Rule including the text of any rule being amended or changed is attached.

Date Rule Proposed: 9/12/2006

Proposed Effective Date of Rule: 9/12/2006

SHANA HARRELL

Shana Harrell

Signature and Title of Person Submitting Rule for Filing

Benefit/Cost Analysis of Onshore Seismic Surveying for Oil and Gas in Mississippi

July 2006

Prepared by
Bob Neal[1]

Benefit/cost analysis is the primary tool for the economic evaluation of public programs in natural resource management, such as flood control, hydropower, harbor improvements, and energy supply projects. It is an integral part of an Environmental Impact Analysis process, meant to evaluate the impacts of public and private developments on environmental resources.

The Basic Framework

As the name implies, a benefit/cost analysis involves measuring, adding up, and comparing all the benefits and all the costs of a particular public project or program. There are essentially four steps in a benefit/cost analysis:

1. Specify clearly the project or program.
2. Describe quantitatively the inputs and outputs of the program.
3. Estimate the social costs and benefits of these inputs and outputs.
4. Compare these benefits and costs.

Each of these steps incorporates a number of component steps. In doing a benefit/cost analysis, the very first step is to decide on the perspective from which the study is to be done. Once the perspective has been determined, complete specification of the main elements of the project (location, timing, groups involved, connections with other constituencies, etc.) must be included.

When the basic project or program has been specified, the next step is to determine the relevant flows of inputs and outputs. It is in this step that we have to recognize the importance of time. Environmentally related projects or programs don't usually last for a single year, but are spread out over long periods of time. So the job of specifying inputs and outputs involves predictions of future events, often quite remote in time. This puts a premium on having a good understanding of things like future growth patterns and future rates of technological change and possible changes in consumers' preferences.

The next step is to put values on input and output flows; that is, to measure costs and benefits. This can be done in any units we wish, but normally we try to measure benefits and costs in monetary terms. This does not mean in market value terms, because in many cases we will be dealing with effects, especially on the cost side, that are not directly registered on markets. Nor does it imply that only monetary values count in some fundamental manner. It means that we need a single metric into which we can try to translate all of the impacts of a project or program, in order to make them comparable among themselves as well as with other types of public activities. Ultimately, certain environmental impacts of a project may be irreducible to monetary terms because we cannot find a way of measuring how much people value these impacts. In this case we must supplement the monetary results of the benefit/cost analysis with estimates of these intangible impacts.

Finally, the benefits are compared to costs. Benefits and costs can be compared in several ways. One way is to subtract the total costs from the total benefits to get "net benefits." Another method is the benefit/cost ratio, found by taking the ratio of benefits to costs. This method shows the benefits the project will produce for each dollar of costs.

The Basic Scenario

The State of Mississippi is rewriting and refining regulations allowing seismic exploration of onshore areas of state owned lands administered by the Mississippi Development Authority. Recent evidence indicates that, in a typical year, three dimensional surveys will be conducted over 150 to 200 square miles as well as linear surveys over about 100 to 150 miles. The state charges a $10 permit fee per acre for three dimensional surveys and an estimated $1,600 per mile permit fee for linear surveys (the permit fee for linear surveys in Mississippi is proposed to be $100 per shot with an estimated 16 shots per mile). The surveying firm will spend an estimated $26,667 per square mile on acquisition cost on a three dimensional survey plus about $10,000/sq.mi.permit fee to land/mineral owners for the right to survey. Surveying firms will spend about $20,000 per mile on acquisition cost to conduct two dimensional (linear) surveys plus $ 1600/mi. permit fee to land/mineral owners for the right to survey.

Benefits for three dimensional (3D) surveys

The State of Mississippi will collect an estimated $6,400 per square mile in permitting fees for a three dimensional survey. For example, if firms conduct three dimensional surveys over 200 square miles of land in Mississippi (an actual survey that recently occurred in Mississippi) an estimated $1,280,000 in permitting fees will accrue to Mississippi. This permitting fee will support an estimated 46 jobs and $1,320,525 in labor income in Mississippi, annually. For a three dimensional survey, the surveying firm will also spend an estimated $26,667 per square mile (or $5,333,400 for 200 square miles) on acquisition cost on the surveys. These estimates represent the direct impact of survey expenditures. These private sector expenditures will support an estimated 62 jobs and $2,261,057 labor income in Mississippi, annually. This example assumes that the entire survey took place on State owned land.

Thus, benefits accruing to 200 square miles of three dimensional surveying in Mississippi would equal an estimated 108 jobs and $3,581,582 in labor income, annually. These jobs and income will also generate an estimated $215,000 in general fund revenue, annually. On a per square mile bases, this representative amount of surveying equates to an estimated 0.54 jobs, $17,908 in labor income, and $1,075 in general fund revenue per square mile.

Benefits for two dimensional (2D) surveying

Historically, firms conduct two dimensional (linear) surveys over approximately 150 linear miles per year in Mississippi. Therefore, in an average year, an estimated $240,000 in permitting fees will accrue to the State of Mississippi. This permitting fee will support an estimated 9 jobs and $247,600 labor income in Mississippi, annually. For a two dimensional survey, the surveying firm will also spend an estimated $20,000 per mile (or $3,000,000 for 150 linear miles) on acquisition cost to conduct the surveys. These estimates represent the direct impact of survey expenditures. These private sector expenditures will support an estimated 38 jobs and $1,271,826 labor income in Mississippi, annually.

Thus, benefits accruing to 150 linear miles of two dimensional surveying in Mississippi would equal an estimated 47 jobs and $1,519,426 in labor income, annually. These jobs and income will also generate an estimated $91,285 in general fund revenue, annually. On a per linear mile bases, this representative survey equates to an estimated 0.31 jobs, $10,130 in labor income, and $609 in general fund revenue per square mile.

The examples detailed above are for the annual average cummulative surveys conducted in Mississippi. Actual benefits to the state will depend on the size of the surveys and the state's ownership share in the surveyed areas.

Costs

The Mississippi Development Authority works closely with the agencies that control state lands. MDA and other state agencies will exercise the right to refuse requests to survey or drill certain lands if they deem those lands to be too environmentally sensitive or fragile. Surveying and drilling operations are also subject to state and federal rules and regulations pertaining to environmental protection. Furthermore, according to the proposed rules and regulations, if the controlling agency requests an environmental specialist to monitor the surveying operation, the surveying firm must assume the cost of the monitor.

Brad Mayo, spokesman for the Mississippi Department of Environmental Quality, said the oil industry hasn't done much to harm the state's ecology. The agency gets involved in oil pollution issues if the oil leaches off the oil field. He said there have been no recent cases. The state Oil and Gas Board responds to pollution complaints from injection-type

enhanced oil recovery operations. Lisa Ivshin, Executive Director of the Mississippi Oil and Gas Board said there have been no problems.

There is no historical evidence that land-based oil and gas seismic surveying has produced any measurable costs associated with environmental damage.

Surveying firms will pay approximately $10,000 per square mile or $1,600 per linear mile to land/mineral owners to secure the right to conduct seismic surveys on those lands. If the assumption is made that land owners are fully compensated for the costs they incur associated with the surveys, then they have suffered no loss and their costs are zero.

Benefit/Cost Comparison

The benefits associated with seismic surveying as described above are estimated to be:

> 0.54 Jobs per square mile for 3D and 0.31 Jobs per linear mile for 2D
> $17,908 per square mile in labor income for 3D and $10,130 per linear mile for 2D,
> $1,075 per square mile in general fund revenue for 3D and $609 per linear mile for 2D.

The costs associated with seismic surveying as described above are estimated to be:

> 0 Jobs
> $0 in Labor Income, and
> $0 in general fund revenue.

1 Dr. Bob Neal is a Senior Economist with the Mississippi Institutions of Higher Learning.