Tax credit, bills may expand EOR opportunities in U.S.

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The last 18 months has been a manic-depressive period for the domestic energy industry as it has been for the U.S. and, indeed, for the world.

Early in this period, in the context of Iraq's invasion of Kuwait, renewed concerns of growing American dependence on imported oil were critical in Congress' passage in the Omnibus Revenue Reconciliation Act in late 1990 of several tax incentives for domestic exploration and production.

At the time, significant excitement was generated by the 1990 Tax Act's extension of the Sec. 29 Nonconventional Fuel Credit, relaxation of the percentage depletion rules, and the introduction of the special energy deduction aimed at reducing some of the harsh E&P disincentives of the alternate minimum tax provisions.

Several events quickly dissipated the optimism of first half 1991:

- The unexpectedly quick Persian Gulf victory.
- Increased OPEC crude production and relatively rapid return of Kuwaiti production to the market.
- Deepening recession in the U.S. and in many other western economies, European and others.
- Last summer's collapse of natural gas prices and this winter's above average temperatures.

By year's end the market situation, together with growing pressures of environmental politics and the realization that the special energy deduction did little to relieve the AMT disincentives, put a serious damper on domestic E&P.

The most dramatic result of this situation is seen in the recent trend of the majors to leave the domestic E&P scene, sell their U.S. reserves, and concentrate mainly on foreign operations.

According to Salomon Bros., the 1992 domestic E&P budgets of the 21 majors are down a combined 12.7% from already low projected 1991 expenditures.[1]

This trend, when considered with the growing instability and the political and economic uncertainties in many of the world's major oil and gas provinces—the former Soviet Union, North Africa (the results of the recent Algerian elections and their aftermath), and the Persian Gulf (unrepentant Iraq and an Iran rapidly rearming from the Russian/Soviet fire sale)—is again starting to raise concern about America's need to maintain some modicum of energy independence.

Table 1

QUALIFICATIONS FOR EOR PROJECTS*

1. Use of qualifying tertiary recovery method
2. Expectation of not insignificant increase in oil recovered
3. Domestic project
4A. Commencement of tertiary injection post-Dec. 31, 1990 or
4B. Significant expansion of pre-Jan. 1, 1991, project where
   (i) new acreage affected or
   (ii) new reservoir affected or
   (iii) previous EOR activity terminated for at least 36 months.
5. Petroleum engineer certification of qualification
6. Annual operator's certificate of changes

*Internal Revenue Code Sec. 43 requirements.

EOR opportunities

With the Arctic National Wildlife Refuge and the most promising domestic offshore provinces off-limits for environmental reasons, attention turns to enhanced oil recovery opportunities.

More than 500 billion bbl of oil in place have been discovered in U.S. reservoirs. Of these only about 150 billion bbl have been produced since Col. Drake's 1859 strike in Titusville.

An additional 25-30 billion bbl are estimated as producible through conventional primary and secondary (waterflooding and steamflooding) methods.

Substantial portions of the remaining 340 billion bbl or so, however, can be produced by known EOR or tertiary production techniques.[2]

It has recently been estimated that an additional 80 billion bbl can be produced by these technologies.[3]

Congress has been aware of EOR potential for some

Table 2

TERTIARY RECOVERY METHODS*

Internal Revenue Code
Sec. 43 qualifying
1. Miscible fluid displacement
2. Steam drive injection
3. Micro emulsion flooding
4. In situ combustion
5. Polymer augmented waterflooding
6. Cyclic steam injection
7. Caustic flooding
8. Carbon dioxide augmented waterflooding
9. Immiscible carbon dioxide displacement
10. Immiscible nonhydrocarbon displacement
11. Other approved by future IRS revenue ruling

Non-qualifying
1. Waterflooding
2. Cyclic gas injection
3. Horizontal drilling
4. Gravity drainage
5. Other nonspecifically approved by regulation or revenue ruling

Possibly appropriate for qualification
1. Microbial techniques†
2. Gel polymer and other permeability modification techniques
3. High tech reservoir characterization techniques§

*Referenced in introduction to IRS proposed regulations, Rep. Owens' bill and Rep. Synar's bill. †Referenced in Rep. Owens' bill and Rep. Synar's bill. §Referenced in Rep. Synar's bill but not qualifiable under current Sec. 43.

time. Indeed, since the oil shocks of the late 1970s, whenever the political climate has been right, steps to encourage domestic EOR have been taken.

These steps included, in the late 1970s, relief from price controls and windfall profits tax for EOR project production and codification of current deduction of tertiary injectant expenses.

EOR tax credit

Having taken a back seat through much of the 1980s, Congress rediscovered EOR during the gulf crisis.

In the context of the 1990 tax act it provided for a new EOR credit (Sec. 43). At the time the EOR credit received relatively little attention.

Recently, however, with the structural changes in the domestic industry and a growing uncertainty about world political and economic stability, following the euphoria of Communism's fall and the Soviet Union's collapse, the EOR credit—its potential and its limitations—has been gathering renewed interest.

This has been encouraged by the Internal Revenue Service's issuance at the end of December 1991 of a series of temporary and proposed regulations relating to the credit's implementation.[4] A public hearing on the proposed rulemaking is set for Apr. 7.

In Sec. 43 Congress provided a tax credit equal to 15% of a taxpayer's qualified EOR costs for the year to be deducted from taxes otherwise owed.

This new EOR credit is one of several tax credits included in the General Business Credit (Code Sec. 38a) and as such is subject to certain limitations and availability.

Perhaps the most important of limitations is that which provides that the EOR credit is not available in any year in which the taxpayer is subject to the AMT.

The AMT rate is 24% (20% for corporations) of AMT income which is taxable income adjusted upward for preference items, including excess intangible drilling cost deductions and excess percentage depletion allowances, adjustments which in the case of E&P operations can be disastrous.

In other words, the EOR credit is available only to the extent that a taxpayer's tax liability in any tax year is greater than the AMT floor.

While certainly limiting the value of the EOR credit, this burden is somewhat alleviated by the provisions of the AMT special energy deduction that permit the deduction from AMT income of 15% of excess nonexploratory well IDC's that would normally be included in the AMT taxable income base.

In an EOR project context, this deduction can be of some salutary value.

To the extent the EOR credit is not available in any year because of the AMT, the unused portion can be carried forward 15 years or back 3 years but not to any year before 1991.

Any part of the credit unused by the end of the 15th year as general matter, is allowed as a deduction in the 16th year.

Qualified EOR projects

The EOR credit is available for any qualified EOR project (Table 1).

Such projects are defined to include any project:

(1) involving the use of one or more tertiary recovery methods that

(2) "can reasonably be expected to result in more than an insignificant increase in the amount of crude oil ... ultimately recovered,"

(3) located in the U.S., and

(4) in which the first injection of liquids, gases, or other matter began after Dec. 31, 1990.

While not specifically set out in Sec. 43, the relevant legislative history indicates that Congress intended that a significant expansion of existing EOR projects would also be entitled to the credit in appropriate circumstances.

For an EOR project to be treated as qualified, the project operator must submit to the IRS a petroleum engineer's certification that the project meets all requirements.

The procedure for submitting petroleum engineer certifications is set forth in temporary regulations issued by the IRS on Dec. 30, 1991.

In addition to the various identifying and descriptive details of the project, these regulations require the certification to contain a statement that the application of a qualified tertiary recovery method "is expected to result in more than an insignificant increase in the amount of crude oil that will ultimately be recovered" and include data on project area reserve estimates with and without the EOR process, pre- and projected post-project production history and delineation of the portion of the reservoir production from which is expected to be increased by the project.

The regulations go on to provide that the operator submit certificates annually during the project's life.

The follow-up certificates must contain, among other things, a description of any significant changes or anticipated changes in the information contained in the engineer's certification.

Of particular interest, the certification regulations indicate that the IRS has acknowledged the availability of the EOR credit to pre-1991 projects that are significantly expanded after Jan. 1, 1991.

This subject is covered at length in the Notice of Proposed Rulemaking and Notice of Public Hearing concerning the EOR credit issued by the IRS on the same day it issued the temporary regulations.

From a review of both of these documents, it appears that the IRS will recognize pre-1991 EOR projects as

qualifying for the EOR credit if the post-1990 expansion

(1) affects acreage substantially unaffected by the project's previously implemented tertiary activities or

(2) affects a reservoir previously unaffected by the project or

(3) if the reservoir and acreage affected were previously subject to tertiary recovery method but the prior method had been terminated for at least 36 months.

The proposed rules provide that neither a change in tertiary recovery method nor a more intensive application of a method will by itself constitute a significant expansion of a project entitled to the EOR credit.

The engineer's certification and the operator's annual follow-up certificates are particulary important given that the proposed regulations do not define the "more than an insignificant increase" in the amount of ultimately recoverable oil standard set by Sec. 43.

Whether a particular EOR project satisfies this standard or not will be determined under all the facts and circumstances, with the first test being the engineer's certification and data contained therein.

The proposed regulations do make clear, though, that application of a recovery method that merely accelerates the recovery process does not meet the required standard and will not be entitled to the credit.

Qualifying EOR methods

The proposed regulations also clarify what recovery methods will be deemed "tertiary recovery methods" for qualifying a particular project for the EOR credit (Table 2). Code Sec. 43 left this critical issue the subject of a morass of cross-references to repealed laws and regulations and approvals thereunder.

The proposed regulations clarify that the following recovery methods will be "qualified tertiary recovery methods" for purposes of the EOR credit:

- Miscible fluid displacement.
- Steam drive injection.
- Micro-emulsion flooding.
- In situ combustion.
- Polymer augmented waterflooding.
- Cyclic steam injection.
- Caustic flooding.
- Carbon dioxide augmented waterflooding.
- Immiscible carbon dioxide displacement.
- Immiscible nonhydrocarbon gas displacement.

To account for advances in EOR technology, the regulations go on to provide that the IRS may by revenue ruling prescribe that a method not specifically enumerated in the regulations be deemed a qualified recovery method.

As a guide for future qualification, the proposed regulations provide that additional methods as a general matter will be limited to those involving displacement of oil from reservoir rock by means of modifying the properties of fluids in the reservoir or providing the energy and drive mechanism to force flow to a production well.

As an example of a recovery method that might be recognized as qualifying, the proposed rulemaking's explanatory note identifies the injection of genetically engineered microbes.

The IRS's indicated reason for not including microbial EOR as a qualifying tertiary recovery method at this time is that microbial EOR technology does not appear to be in commercial use at the present time.[5]

At the same time, the proposed regulations make clear that the following recovery methods do not qualify:

- Waterflooding.
- Cyclic gas injection.
- Horizontal drilling.
- Gravity drainage.
- Any other recovery method not specifically designated as a qualified method either in the proposed regulation or in a revenue ruling issued pursuant to the proposed regulation.

Qualified EOR costs

The qualified EOR costs that form the credit base of the EOR credit consist of tangible property costs, IDCs, and tertiary injectant costs.

As a general matter the proposed regulations limit inclusion in the credit base only to such costs paid or incurred with respect to an asset that is used for the "primary purpose" of implementing a qualified EOR project.

Whether the "primary purpose" of any asset is to implement a qualified EOR project will be determined in light of all the facts and circumstances, but it seems clear that costs incurred in connection with a well or drilling platform used in the first instance for primary or secondary recovery projects will probably not qualify even though it is anticipated that the well or platform may at some point also be used in connection with an EOR project.

With respect to tangible property, Sec. 43 provides that only the costs of such property that is an "integral part" of a qualified project are entitled to be part of the credit base.

The proposed regulations provide that a property is an "integral part" of a project if it is used directly in a tertiary recovery method and is essential to the completeness of the method.

Again a facts and circumstances test will be used to make these determinations; though here the proposed regulations provide a series of examples of "integral" property and the IRS solicits suggestions of other types of property that should be subject of additional examples.

If any "integral" property meets the "primary purpose" test but is used only partly in connection with a qualified EOR project, the proposed regulations provide that its costs must be allocated and only that portion allocated to the qualifying use may be used as part of the EOR credit base.

For example, the cost of a steam generator is allocated under this rule if it provides steam for both a qualified 1991 project and a nonqualified 1988 project.

Under the proposed regulations, qualified tangible property costs are included in the credit base in the year in which the property is placed in service; IDCs are included in the year deductible under Sec. 263(c); and tertiary injectant expenses in the year deductible under Sec. 193.

Costs before the date of the first injection of liquids, gases, or other matter may be qualified EOR costs, but the credit therefore may be claimed only after the first injection and only if the first injection occurs within 36 months of the end of the tax year in which the costs were incurred.

For all purposes, the determination of qualified EOR costs shall be subject to "at risk limitations" similar to those that were applicable to the Investment Tax Credit.

Those rules generally excluded nonrecourse financing from the credit base.

The IRS intends to issue regulations in this connection but has not yet done so.

Additional limitations

Additional provisions of Sec. 43 and the proposed regulations that should be noted include:

1. The EOR credit is available only to owners of operating mineral interests in the EOR property. Royalty owners, owners of net profit interests, and other economic but nonworking interest are not entitled to the credit.

2. Because Sec. 43 provides for no recapture of the EOR credit, the proposed regulations contain a series of antiabuse provisions aimed at insuring the nonduplication of the credit. The costs incurred to acquire an existing qualified EOR project are not eligible for the credit.

3. As with the Sec. 29 credit and the increased percentage depletion allowance for stripper and heavy oil production, the EOR credit

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is ratably reduced over a $6 phaseout range in any year in which the preceding year's per barrel crude oil wellhead "reference price" is greater than $28 adjusted for inflation.

4. To the extent that an EOR credit is taken in any year for deductible IDCs or tertiary injectant costs, the amount of the allowable deduction shall be reduced by the amount of the EOR credit taken. For example, if the entire $10,000 of tertiary injectant costs are used in computing the EOR credit, the $10,000 Sec. 193 deduction must be reduced by $1,500.

5. Similarly, if an EOR credit is determined for any tangible property expenditure, the increase in basis that would otherwise occur must be reduced by the amount of the credit.

6. If production from a qualified EOR project is from a source also entitled to the Sec. 29 credit, such as shale or tar sands, the Sec. 29 credit must be reduced by the EOR credit being claimed.

To avoid the impact of these limitations on deductions and Sec. 29 credits, a taxpayer may elect to have the EOR credit not apply in any given year. This option may be particularly attractive where a Sec. 29 credit is available and in various AMT driven scenarios.

Congress' views

Even with the incentives provided by Sec. 43 and the EOR credit, many are justifiably concerned that it is not enough.

This concern is exacerbated by the fact that the AMT provisions as currently in place substantially limit the credit's economic availability.

Congress is aware of this fact. Yet many in Congress are also aware of the need to develop the huge remaining known domestic petroleum reserves and encourage environmentally safe EOR methods to produce these reserves.

They recognize that to do this the incentives to engage in EOR operations and develop more efficient technologies in an era of low but unstable and insecure oil prices must be increased.

Perhaps more important, though, they recognize that as a first step, the disincentives to EOR operations, particularly as encompassed by the AMT provisions applicable to E&P operations, must be eliminated.

A start in this direction was taken on the last day of February 1991 when Rep. Wayne Owens (D-Utah) introduced an EOR bill into Congress.

Among other matters, this bill proposed increasing the EOR credit to as much as 25% if the reference price falls below $20/bbl, expanding the availability of percentage depletion for EOR production, including microbial and gel polymer methods among the prequalified tertiary methods, and including additional EOR project related costs among currently deductible IDCs.

The bill did not deal with the AMT problem.

In July 1991, Rep. Mike Synar (D-Okla.) introduced a clean domestic fuels enhancement bill. The motivating factor behind the bill, intended in large part to encourage increased use of plentiful domestic natural gas both as a boiler and a vehicular fuel with minimal environmental impact, was the concern over the impact of high and increasing levels of oil imports on the national security and economic health.

Incorporated in Synar's bill are several provisions aimed at encouraging EOR production, including Owens' proposals to increase the EOR credit and to include in the definition of tertiary recovery methods gel polymer and microbial (and also high tech reservoir characterization) techniques.

Synar's bill goes further. For example, it proposes spending $228 million of federal funds across 5 years for EOR research and development. More important is its proposal to eliminate most of the AMT limitations to the EOR credit's availability.

Specifically, the bill proposes that the EOR credit can be used to offset AMT liability and effectively reduce that liability from the 24% (20% of corporations) provided for in the 1990 tax act to 10% of AMT income.

Both the Owens and Synar bills have seen little or no activity since summer 1991. Recently, Owens and Synar agreed to press forward with Synar's bill. Apparently the sponsors have recently been in contact with Rep. Rostenkowski requesting that the Synar bill be brought before the Ways and Means Committee for markup.

Hopefully this move will force Congress to turn its attention to the problems being faced by domestic E&P and the need to overcome the many economic and regulatory disincentives to the redevelopment of an economic, efficient, secure, and environmentally sound domestic energy industry.

References

1. Petroleum Intelligence Weekly, Jan. 13, 1992, p. 11.
2. Federal oil research: a strategy for maximizing the producibility of U.S. oil, U.S. Department of Energy Office of Fossil Energy, DOE/FE-0139, 1989, p. 11.
3. Congressman Wayne Owens, letter of Mar. 1, 1991, circulating his H.R. 1199, Enhanced Oil Recovery Act of 1991. See DOE/Office of Fossil Energy, Oil Research Program Implementation Plan, DOE/FE-0188P, 1990, pp. 1, 5-8.
4. 56 Federal Register 67176-178 and 67255-266, 12-30-91 (to be codified at 26 CFR Parts 1 and 602. A public hearing on the proposed rulemaking is scheduled for Apr. 7, 1992.
5. Launt, P.D., MEOR economics attractive in many circumstances (descriptions of certain MEOR methods and their economics) American Oil & Gas Reporter, September 1991, pp. 52-62.