

Notes "Economic Benefits Assessment for States' Hazardous Waste Enforcement Cases"
NEWMOA Hazardous Waste Webinar
April 13th, 2021

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Any comments expressed by participants should not be considered legal opinions or official EPA or State positions on a rule, site-specific matter, or any other matters. Participants' comments do not constitute official agency decisions and are not binding on EPA or the States. For exact interpretations of a State's or EPA's RCRA regulations, rules, and policies, NEWMOA recommends that readers of these notes contact the appropriate hazardous waste program in the State's environmental agency or EPA Headquarters or EPA Regional RCRA staff.

Participants: CT DEEP (6 people); ME DEP (1 person); Mass DEP (6 people); NH DES (5 people); NJ DEP (9 people); NYSDEC (10 people); RI DEM (3 people); VT DEC (4 person); EPA (23 people); NEWMOA (1 person)

Notes prepared by Katherine Faust, CT DEEP

The webinar was recorded, and the slides and recording are available on the Members area of NEWMOA's Hazardous Waste website.

Presenter: David Smith-Watts, EPA HQ's Office of Enforcement and Compliance Assurance

- Office of Civil Enforcement, Cross Cutting Policy Staff Director
- David is a resource for the EPA Regions and the states. He works on policy issues that impact civil penalties.

Presentation: This presentation covers types of economic benefit and using the BEN Model to calculate economic benefit for RCRA cases.

Presentation Overview – Five Key Points:

1. Overview of economic benefit and BEN Model
 2. Case examples outside of BEN and using BEN
 3. Strategic Considerations
 4. Resources
 5. Application to RCRA Cases
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Overview of Economic Benefit and BEN Model

There are two main components of civil penalties:

1. Gravity-based penalty:
 - a. Seriousness of violation
 - b. Actual or potential harm to the environment
 - c. Harm to the regulatory program
2. Economic Benefit:
 - a. Economic Benefit is the amount by which a party is financially better off due to not complying with environmental law in a timely manner.
 - b. The purpose of recapturing economic benefit:
 - i. It removes economic savings a violator derives from noncompliance.
 1. For example, if a company saved money by not complying with pollution control requirements and did not purchase or install the appropriate equipment, they saved money and gained a financial advantage over competing companies that installed the proper equipment on time.
 - ii. Recouping economic benefit levels the playing field among regulated entities by eliminating the financial advantage gained through noncompliance.

Theory Behind Economic Benefit

- A violator could have used the money gained through noncompliance to generate additional revenue and gain an unfair competitive advantage. In the example, a company did not install the proper pollution control equipment in a timely manner. With those extra savings or revenue, a company could:
 - Hire additional employees
 - Spend more on advertising
 - Invest more in research and development, etc.

Three Types of Economic Benefit

1. Delayed Costs – delayed purchases, installation, or labor
2. Avoided Costs – for example: a party hasn't purchased pollution control equipment (less frequent)
3. Wrongful profits – profits gained due to noncompliance. (The BEN model does not calculate wrongful profits.)

BEN Computer Model

BEN is short for “economic benefit.” It calculates economic benefit derived from avoided and delayed costs, not wrongful profits. BEN is available for download on the EPA or Industrial Economics’ website. (Industrial Economics, or “IEc,” is EPA’s contractor.) It is also necessary to install ABEL, INDIPAY, MUNIPAY, PROJECT in order for BEN to work properly. It is necessary to upload annual updates to BEN and its accompanying software programs to keep up with the current rates.

- Users will typically need to download BEN through their agency’s IT department.

What does BEN Model Do?

BEN “goes back in time” to compare the NONCOMPLIANT, ACTUAL scenario with a COMPLIANT, HYPOTHETICAL scenario.

- What happened vs. What should have happened?

Time Value of Money

It’s been said, “a dollar today is worth more than a dollar tomorrow.” The dollar is valued in relation to other dollars in the world. Inflation and alternative investment opportunities can make a dollar saved in the past worth a different amount in the present. For example, a business can take advantage of the money they aren’t putting towards necessary pollution control devices and invest it elsewhere. In other words, what a company can do with that dollar would have been more economically beneficial to them than complying with the environmental regulations. Investment returns are a combination of expected inflation and the additional return of business activity.

The value of money throughout time is quantified by “discounting” or “compounding” cash flow from different years to the present value.

Discount Rate: the rate to adjust money backward in time

Compound Rate: the rate to adjust money forward in time

BEN uses the weighted average cost of capital (WACC) as the discount/compound rate. It follows the same internal financial analysis as companies do, so they will likely already know their discount/compound rate. This percentage is the cost of debt and equity weighted by the value of each financing source. Companies need to earn a rate of return to repay debts and equity owners.

Case Examples Outside of BEN and Using BEN

Example:

1. In this example case, a company purchased and installed a \$1.1 million dollar pollution control system in year 5, when they should have installed it from the beginning in year 0. In this case, the penalty won’t be paid until year 7. (Graphs illustrating this case can be found in the uploaded slides and in the recorded presentation on the member’s section of NEWMOA’s website.) The BEN model takes the cost that was incurred in the present (\$1.1 million in year 5) and adjusts it back to year 0. With this calculation, it would only have been \$1 million dollars in Year 0 represented by A column (see graph on website).
2. Take the discount rate (inflation, what the company could do with the money), and apply it to the \$1.1 million in year 5 as of year 0 (column B).
3. Calculate the economic benefit as of noncompliance date. Economic benefit (D) is the difference between the on-time and delayed scenario present values (column A – column B).
4. The calculated benefit is represented by D and is adjusted to the penalty payment date in Year 7 (column E).

Using the BEN Main Screen

1. Enter the case name and/or entity name.
2. Use the drop-down menu to select what office you’re from. (You can put EPA headquarters and your initials as the analyst, or select state government. Steps 1 and 2

have no effect on the calculation but are important in record keeping and distinguishing cases from one another.)

3. Go to File – Save As. Your economic benefit run can be saved like any other document and the file can be emailed to other colleagues.
4. Figure out what type of entity the respondent is through a quick google search, or by asking the violating company.
 - a. The BEN model will treat the calculation differently depending on type of entity. The entity types include C-corp., for-profit non-C corp., nonprofit, municipality, etc.
5. What state are they located in? – select a state.
 - a. You can also use an average of all 50 state or customize the taxes (Customization is possible, but it is done very infrequently and is typically unnecessary.)
6. To make the calculation, select “New Run” and “Add.” Then hit “Enter/Edit” – You will then be prompted with a pop out window.
7. In the window there are three types of cost info to put into BEN.
 - a. Capital investment: the cost of designing, purchasing, and installing the pollution control equipment – i.e., things that wear out
 - i. Buildings, equipment
 - b. One-time non-depreciable expenditure: expenditures that need to be made only once and are non-depreciable – things that do NOT wear out
 - i. Land, disposal, staff costs
 - c. Annually recurring costs: The average annual incremental cost of operating and/or maintaining the required pollution control measures
 - i. Labor, material
8. Input Dates
 - a. Cost estimated date: when the reported compliance costs were estimated
 - b. Noncompliance date: when the respondent should have spent money (Year 0)
 - c. Compliance date: when the respondent actually spent the money (Year 5)
 - d. Penalty payment date: when the respondent will pay the penalty (Year 7)
 - e. Our Pollution Control Example:
 - i. Estimated date: January 1, 2020
 - ii. Noncompliance date: January 1, 2015 (Year 0)
 - iii. Compliance date: January 1, 2020 (Year 5)
 - iv. Penalty payment date: January 1, 2022 (Year 7)
9. Input Data – Optional Run Inputs
10. BEN can use 6 different types of inflation. It doesn’t have to be adjusted, but it is an option for things like higher labor costs, etc. If inflation is adjusted, it may be helpful to make more than one run for the sake of comparison. If “delayed, not avoided” is auto checked, remember to uncheck it if the cost is avoided. Return to the main screen and press calculate. Your run should appear with several categories. They are populated with the example numbers here:
 - a. On time capital and one-time costs (\$863,908)
 - b. Delayed capital and one-time costs (\$579,155)
 - c. Annual reoccurring costs (\$0)
 - d. Initial Economic Benefit (A-B+C) (\$284,753)
 - e. Final Economic Benefit at Penalty Payment Date (\$472,607)

It Is Possible to Do Multiple Runs at A Time to Compare Results

1. Highlight the run and select copy.
2. Rename the copied run.
3. Change the discount rate, or whatever parameter you'd like to change for comparison.
4. Highlight both runs by holding the shift key and click on the runs.
5. Select calculate, and it will show the economic benefit results.

Can view 'numbers' used in BEN

On your computer you can go to your files and open up the BEN file. There you will find excel spreadsheets, which are the internal files for BEN.

- **Do not alter information in the current location – it will alter BEN. If you would like to adjust the numbers for comparison, make a copy of the BEN files and rename your copy something else before tweaking it.**

The type of cost depends on the violation. You can use disposal costs in first run as one-time non-depreciable expenditure, and you can use it in the second run as an annual cost and compare results.

Wrongful Profits: The 3rd Type of Economic Benefit

Wrongful profits are additional revenue gained through noncompliance. These are also known as illegal profits. Wrongful profits are beyond the scope of the BEN Model. They can create an illegal and unfair competitive advantage over other companies. Wrongful profits can include:

- Selling banned products or selling products for banned uses
- Selling products without the necessary labels or warnings
- Removing or altering required pollution control equipment for a fee

Unfortunately, the BEN Model cannot be used to calculate wrongful profit, so a calculation independent of the model will be necessary. The most basic wrongful profit equation is as follows:

$$\text{Wrongful Profit} = \text{Revenue} - \text{Cost}$$

While the basic equation is very simple and can be used as a starting point, wrongful profit calculation can be very complex. It may be necessary to reach out to a financial analyst or expert for help.

Tips and Strategic Considerations

Calculating economic benefit can be difficult, but don't get too frustrated. The example discussed above is simple, but real-life cases are often much more difficult and confusing. According to the courts, calculating economic benefit is a "reasonable approximation". It has to be reasonable and supported, but not 100% exact. It is helpful to look back on prior cases similar to the one you're working on for comparison. The BEN Model is just a fancy calculator. It is amoral and only takes into account economic benefit based on the information it is provided.

There are some cases in which BEN will calculate a negative number. This can be due to tax changes or other factors. Obviously, this does not mean EPA or the state owes the violating party money, it just means that the economic benefit is \$0.

Do not run multiple BEN runs for multiple violations or when trying to understand how inputs effect calculation.

Companies already know their discount rate. If the company claims to have a different discount rate to that used in your calculations, they need to prove their claim with verifiable evidence. Accept using alternative rates only if it makes sense.

Economic Benefit Authority

RCRA doesn't specifically mention economic benefit in the regulations. Be cautious when using BEN in a hearing or trial. If the issue is taken to court, it is important to be able to explain your calculation and the reasoning/procedure behind it from start to finish. Judges don't like it when you provide results that you can't explain in court or in a hearing.

- Example: VSS International, Inc. 2016
 - The EPA case team submitted BEN Model results page to court, but they could not explain their whole reasoning, so it “fell short.”
 - The judge found enough information to support EPA in the end, but this is a good example of needing to know the BEN Model to fully support your case.

Resources

There is helpful information on how to use the BEN Model built right into the system. In BEN, you will find the help system by selection “Help.” This will bring up an PDF of information on the model. The PDF covers BEN economic principles, input instructions, calculations, etc.

There are also the Federal Register notices from when the BEN Model was being developed. With these, you can view foundational penalty policies:

- 61 FR 53026 (October 9, 1996)
- 64 FR 32948 (June 18, 1999)
- 70 FR 50326 (August 26, 2005)

If you still require assistance, contact Industrial Economics (IEc) on EPA helpline. IEc' helpline:

- Can provide up to 5 hours of free support
- Can answer questions regarding hypotheticals not confidential information
- Can answer questions both simple and complex
- Can be reached at (888) 326-6778 or email benabel@indecon.com

Unfortunately, there is not a secure system for sharing documents containing CBI at this time, so it may be difficult to navigate those situations with the assistance of IEc.

David also has a monthly call titled “EPA and States Financial Penalty Analysis” that provides listeners with useful information regarding economic benefit policy.

In addition, there are recorded trainings for EPA and the states on EPA's Federal Talent website, and David has offered to be a resource. His contact info can be found in the presentation on NEWMOA's website.

Application to RCRA Cases

1. De Minimis or Insignificant Economic Benefit Amounts – information on this can be found in the 2003 RCRA Civil Penalty Policy.

It is not always necessary for de minimis economic benefit to be pursued by EPA case teams. More specifically, it is not always necessary to seek economic benefit amounts lower than \$10,000. However, it's still important to run the calculation, since you do not know what the economic benefit will be until the calculation is done. It is important to show documentation that explains why it is considered de minimis. Using the BEN model can document what you did and why you made your decision to pursue or drop an economic benefit penalty.

2. Finding and Inputting Cost Information into BEN

Calculating economic benefit can be a challenge, but don't get frustrated. Economic benefit is a reasonable approximation, not an exact number. If you are having trouble determining the input costs of certain violations, you can use google or just ask the company. It's also important to talk to your colleagues and compare to other cases, since not everything on the internet or provided by the company will always be accurate. See slide 46 for links to more reference material.

3. Modifying Cost Information

A good resource is the Unit Cost Compendium. You can adjust a cost for inflation on Consumer Price Index. It is important to know what the industry standard is. You have to understand the industry and see if what they are being penalized for is appropriate for the costs delayed or avoided by noncompliance.

4. High and Low Economic Benefit Calculations
 - a. Low Examples: Open container violations, labeling violations, no weekly inspections, RCRA training violations, satellite accumulation violations, etc.
 - b. High Examples: Large hazardous waste identification violations, illegal disposal/dumping, speculative accumulation, failure in leak detection/repair, storing waste for greater than 90 days, etc.

RCRA Violations with larger economic benefit are mentioned in EPA RCRA Civil Penalty Policy. (slide 51)

Failure to make a HW determination Violation Example:

Is the violation pertaining to a pill size bottle or hundreds of 55-gallon drums? There is likely more economic benefit in ignoring the drums than in ignoring the pill bottle.

- Were the containers stored for 3 years or for 3 days?
- It is important to include the cost of sampling and lab analysis
 - You can search for costs related to the violations online and/or ask the company for receipts.

Important to Document Economic Benefit Calculations Regardless of the Amount

It is important to calculate economic benefit even if it's too small to be pursued. This way, the reason for pursuing or not pursuing economic benefit will be documented in the case file. Summarize the violation and explain the use of the BEN model, including the inputs you used. Show the calculated amount and explain how it was resolved. Basically, tell the story of your case so that you can explain your reasoning.

End of Presentation.

Questions

“What is the scope of Industrial Economics’ service? EPA offered the services of Industrial Economics years ago but focused more on closure. They were used to evaluate financial assurance documents that were provided.”

- Financial assurance and economic benefit are handled by two separate people at EPA. You can call EPA to help answer questions. Financial assurance questions are better answered by the department, but IEc can probably answer simple questions. The scope of their contract is broad, but the contract focuses more on economic benefit and ability to pay, i.e., what the civil penalty will be.

“I used the EPA guide from 1997 ‘Estimating RCRA Noncompliance.’ This includes good information for contingency plans. Is this document out of date, or is it still used?”

- Not sure if that document you’re referring to is the first highlighted hyperlink on page 46, but the technology is roughly the same. Getting information from a recognized source is great. The more information you have, the better.

“If the states want to get training, how do they request training, and who delivers the training?”

- Reach out to the presenter (David) and discuss your need for training. David can provide information and specific training through EPA. Industrial Economics is planning to do a basic training using the BEN model and other models. If you need specific economic benefit training, reach out to David.