

# Teaching Negotiation in the Context of Environmental Regulatory Enforcement: An Experiential Learning Approach

## **Instructor's Manual**

May 2012

Exercise designed by Stephen A. Johnson with the assistance of Leonard Ortolano

Manual prepared by Stephen A. Johnson, Marisa S. Choy, and Leonard Ortolano; updated in  
May 2012 by Susan A Rebellón

Copyright by Stephen A. Johnson, Marisa S. Choy, and Leonard Ortolano

## **Copyright**

Use in high schools and colleges for educational purposes is permitted provided that copyright notice and attribution to the authors is included in materials distributed to students; however, use of this material in other contexts is strictly prohibited without permission of the copyright holders.<sup>1</sup>

**Copyright © 2012 Stephen A. Johnson, Marisa S. Choy, and Leonard Ortolano**

---

<sup>1</sup> For permission, contact Stephen A. Johnson ([sjohnson@gnarusllc.com](mailto:sjohnson@gnarusllc.com), 650-260-5344) or Leonard Ortolano ([ortolano@stanford.edu](mailto:ortolano@stanford.edu), 650-723-2937)

## Contents

1. Instructor's guide.....	2
2. Role preference survey.....	7
3. Role descriptions.....	9
3.1. Aloha team.....	9
3.1.1. Law Firm Partner (Team Coordinator).....	9
3.1.2. Law firm associate.....	10
3.1.3. Aloha Manufacturing In-House Counsel.....	11
3.1.4. Corporate Environmental Official, Aloha Manufacturing.....	12
3.1.5. Plant Manager, Aloha Manufacturing.....	13
3.1.6. Plant Environmental Engineer, Aloha Manufacturing.....	14
3.1.7. Consultant to Aloha Manufacturing.....	15
3.2. Government team.....	15
3.2.1. US Department of Justice Lead Attorney (Team Coordinator).....	15
3.2.2. US Department of Justice Support Attorney.....	17
3.2.3. EPA Managing Attorney.....	17
3.2.4. EPA Staff Attorney.....	18
3.2.5. EPA Manager.....	19
3.2.6. EPA Enforcement Officer.....	20
3.2.7. EPA Inspector.....	22
3.2.8. State Enforcement Officer.....	23
3.2.9. State Inspector.....	24
4. Gravity factor groups.....	25
5. Student guide.....	27
6. Case study.....	35
7. BEN model instructions.....	41
7.1. Simple manual for downloading BEN model.....	41
7.2. DCF sample problems.....	42
8. Exercise evaluation form.....	44
9. Peer evaluation form.....	48
10. Adaptation for high schools.....	49
10.1. Timing adjustments.....	49
10.2. Content and curricular adjustments.....	50
10.3. Additional resources for teachers and students.....	50

## 1. Instructor's guide

This document is intended for use in conjunction with the article entitled “Teaching Negotiation in the Context of Environmental Regulatory Enforcement” by Marisa Choy, Stephen Johnson, and Leonard Ortolano. The Instructor’s Manual contains details on our teaching approach, sample handout materials, and indications of how the exercise can be modified for high school settings.

The following section provides step-by-step instructions for teachers wishing to implement the simulation exercise. It also explains the use of materials included in other parts of the instructor’s manual.

**Table 1: Timeline for instructors**

Task	Timeline
Steps 1-4	>1 week prior to start
Steps 5-7	1 week prior to start
Steps 8-9	Week 1
Steps 10-11	Week 2
Steps 12-14	Week 3
<hr/>	
Steps 15-16	Day of final negotiation
Step 17	1 week after finish

### 1. Review article and sample instruction materials.

The first step involves the article by Marisa Choy, Stephen Johnson and Leonard Ortolano entitled “Teaching Negotiation in the Context of Environmental Regulatory Enforcement” (*Applied Environmental Education and Communication*, 10:105–115, 2011). Read through the full article to become familiar with the original educational objectives, key design attributes, and general approach to implementing the simulation exercise. Read through the handouts that are to be distributed to students to see the level of detail required and to determine whether they fit your own classroom needs. Sample handouts are provided in the following sections of this manual.

### 2. Modify case study, teaching materials, etc as necessary.

The exercise described in the article focuses on corporate-government negotiation in the context of the U.S. Clean Water Act (CWA) of 1972. Instructors should modify the dates used in the case study, such as the date that new equipment must be installed and the penalty payment date. Base-Year Formatting is implemented in the case study materials to facilitate the process of updating the materials to match the year the exercise is used. This format uses

a sequence of thirteen codes (BY0-BY12) in place of the referenced years, which all fall into a single 13-year period. According to this format, the exercise takes place in base-year 11 (BY11). The document can easily be customized to the year the exercise is used by using a “find-and-replace” function. As an example, if the exercise were to be used in 2015, all “BY11” codes should be replaced with “2015.” Likewise “BY12” codes should be replaced with “2016”, “BY10” with “2014”, etc. Make sure to make the BY1 replacement last in order to avoid incorrectly replacing the first four characters in “BY10-12” with the year corresponding to BY1. Also note that BY formatting in headers and footers may need to be updated manually depending on the “find-and-replace” settings in the word processor used.

The current exercise also directs students to omit certain portions of the policy when determining a penalty; in particular, “overall adjustment factors” (e.g., litigation considerations, ability to pay) and the effect of EPA’s inflation adjustment regulations. For application of overall adjustment factors, refer to EPA’s March 1, 1995 Interim Clean Water Act Settlement Policy available at [www.epa.gov/Compliance/resources/policies/civil/cwa/cwapol.pdf](http://www.epa.gov/Compliance/resources/policies/civil/cwa/cwapol.pdf). For additional information on inflation adjustments, refer to the codified regulation available at 40 CFR Part 19, <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=307d03d970f55ec8b0da4e1fe3b2ae25&rgn=div5&view=text&node=40:1.0.1.1.18&idno=40>. While these omissions are recommended for simplicity and to meet the time constraints of our course, they can be included if desired.

### **3. Determine who will deliver the initial kick-off lecture.**

In our case, the course instructor lectures on the CWA to provide general background preparation. The exercise is officially launched, however, by the professional environmental consultant who helped design the exercise. If you plan to engage a working professional to help provide oversight and direction to students, reach out early to gauge interest, ensure that background and qualifications fit the particular subject matter of the exercise (e.g., CWA), explain the process, and coordinate scheduling.

### **4. Schedule three class sessions in a span of approximately 5 weeks.**

The simulation is designed to be conducted in two 110-minute sessions about four weeks apart, with a 45 minute session prior to the final session and multiple tasks performed outside of class in the intervening time.<sup>2</sup> The first session is for the kick-off lecture and distribution of instructions for the simulation. The second session is for a preliminary negotiation, and the final negotiation and debriefing. In between, students are expected to complete individual assignments, meet in teams, and conduct initial negotiations outside of class. Instructors should make room in their teaching curriculum and/or the homework assignment schedule to accommodate the ongoing exercise.

### **5. Distribute role preference survey to students.**

---

<sup>2</sup> If needed, the entire simulation could be performed in class using four two-hour sessions. If more class time is available, the team meetings and initial negotiation process that occur prior to the final negotiation could be performed in class. In addition, more than one class could be used for the final stage of negotiation if agreement is not reached in one class session. By not having to rely on coordinating schedules of multiple students outside of class, this process may result in a richer simulation that allows for even greater student participation.

To determine which roles students will play for the penalty negotiation, an initial interest survey (Section 2) is conducted to collect individual preferences for team (Government or Aloha), position (e.g., in-house attorney, EPA enforcement official), hierarchy (e.g., team coordinator or supporting role), and individual characteristics (e.g., confrontational, conciliatory).

**6. Use student responses to create teams and assign roles for the exercise.**

Start by separating those who wish to work for the government from those who wish to work in the private sector. Teams should have equal numbers of members. If there are an odd number of students, place one more on the government team. Next separate legal staff from technical staff, and identify potential team coordinators. Finally, consult the role descriptions (Section 3) to match student preferences with certain adopted personal characteristics and motivations. Gravity factor groups are determined by the role each student is assigned (Section 4). The groupings can be used to balance workload (i.e., certain gravity factors are easier to calculate) and the distribution of “hard-line,” “soft-pedaling,” and more neutral roles within each gravity factor group as well as on each team.

**7. Update materials with final revisions, current due dates, etc.**

**8. Hold initial lecture session four weeks prior to final negotiation.**

During the initial class session, the guest professional (or instructor) lectures on the theory and practice of environmental enforcement, the calculation of economic benefit of noncompliance as EPA determines it, and any alternative perspective on such calculations. The lecturer introduces the case study that will be the subject of the two homework assignments: (1) individual BEN Model<sup>3</sup> and (2) group penalty negotiation.

During the last 15-20 minutes, students are organized into teams. Distribute individual role descriptions (Section 3) and copies of the student guide (Section 5) and case study (Section 6) to all participants. If peer evaluation forms are to be used, they should be distributed as well (Section 9). Encourage students to exchange contact information and arrange a mechanism for setting up meeting times and communicating with one another.

**9. Hold an optional help session for the BEN Model assignment.**

Students complete individual BEN model calculations to submit in class during the second week of the exercise. The “Simple manual for BEN model” describes how to use the PC program (Section 7.1). The “Discounted Cash Flow Analysis Example Problems” can be used in the help session to illustrate concepts of time value of money and cost of capital (Section 7.2).

**10. Collect and grade individual BEN Model assignments during Week 2.**

Devise a simple grading formula. Possible points to consider in setting up a grading approach include U.S. state, type of corporation, noncompliance date, penalty payment date,

---

<sup>3</sup> The paper and the simulation are not intended to be an endorsement of EPA’s theory and approach to determining economic benefit of noncompliance in general, nor of the validity of the BEN Model in particular. Rather, this information is used to teach students about EPA’s theory and approach and to enable them to complete a relevant assignment within a limited time frame by using an easily operated computer model. Instructors who wish to devote more time to this material could teach alternative perspectives on how any economic benefit of noncompliance should be determined by applying principles of corporate finance.

compliance date, capital investment, cost estimates, cost estimate dates, one-time non-depreciable expenditures, annually recurring costs, and final economic benefit.

**11. Collect initial penalty calculations from each team.**

During Week 2, the teams meet outside of class to prepare their initial penalty calculation (see Section 5). Each team turns in (and hands over to the other team) a *summary* of their total initial penalty offer. The summary should list the amount for the economic benefit component, the gravity component, any gravity adjustments, and the total figure. Teams also have the option of exchanging additional details of their penalty computation.

**12. Provide guidance and oversight as necessary throughout the negotiation process.**

During Week 3, gravity factor groups email and meet with their counterparts on the opposite team to negotiate a *tentative* agreement regarding their factor. No final agreement is to be reached, as that will occur only after all members of each team agree to all elements of the penalty calculation in preparation for the final negotiation. The instructor, teaching assistant, and any invited guests make themselves available to assist students during the process. They also periodically monitor the progress of each team, including reviewing preliminary penalty calculations.

**13. Facilitate preliminary negotiation.**

Schedule a preliminary negotiation at least one week prior to the final negotiation.. The purpose of the preliminary negotiation is to give the teams an opportunity to identify the points on which both teams appear to agree, and identify the points of contention that will require more extensive discussion. The actual negotiation should not go longer than 30 minutes and should not result in the final resolution of any issues.

**14. End lecture early a few days prior to the final negotiation.**

During the last 30 minutes of class time, allow students to meet separately as a team (i.e., Aloha and EPA) to discuss progress made regarding individual gravity factors and issues, and to decide on an overall strategy for negotiating the final penalty in class. If an environmental professional participates in the class and exercise, the students will benefit if the professional can visit during this time to provide guidance to the teams. If either team needs additional time for this work, they will need to meet outside of class prior to the final negotiation.

**15. Hold final negotiation during a second class session at the end of Week 4 or beginning of Week 5.**

See Section 5 for structure and timing of the final session. During the negotiation, instructors may wish to take notes to keep track of student participation. At the end of the exercise, the course instructor and any invited guest professionals conclude with comments and observations.

**16. Host optional, after-class debriefing session.**

Discussion continues after class over beverages at a local coffee shop. This setting provides opportunity for informal interviews and further interaction between students and guest professionals.

**17. Distribute post-exercise evaluations and collect one week later.**

Following the final negotiation, students are asked to evaluate their experience by completing a questionnaire. See sample in Section 8. Results are compiled and reviewed for teaching feedback and future improvements to the exercise. Instructors have the option of including a peer evaluation form as discussed in Section 9.

## 2. Role preference survey

The role preference survey is distributed prior to the initial kickoff session. Student responses are used to create teams and assign roles for the penalty negotiation exercise. A sample survey is shown below.

### Role Preference Survey for Environmental Enforcement Exercise

*[Use the first paragraph as appropriate.]* On *[insert date]*, *[insert name]* will be a guest lecturer for the class. *[Insert biography.]* *[Insert name]* will lecture on the principles and practice of environmental enforcement in general and penalty determinations in particular.

You will be assigned two exercises on environmental penalty assessment and negotiation. One will be an individual homework assignment, and the other will be a group exercise that requires you to play a specific role as part of a larger team. The class will be divided into two parallel negotiations, each with two teams: a government team and a company team. Through several steps over a multiple week period, the teams will try to negotiate a penalty to settle a threatened government lawsuit for alleged violations of the federal Clean Water Act (CWA).

To help us assign you to a position, please complete the following questionnaire. We will try to assign roles consistent with everyone's preferences, but cannot make any guarantees. Consider whether you would like to play a role that fits your normal preferences, personality and style, or whether you wish to take on a character that is very different from your natural inclinations. Be aware that students in previous classes have noted that taking on a personality significantly different from your natural personality can be difficult and will require more effort, but at the same time can be a powerful learning experience. Make your choices thoughtfully as your ability to stay "in character" during the in-class exercise will count towards the class participation component of your grade.

Please e-mail your completed form to *[insert email]* by *[insert date]*.

Name:

Please select ONE choice from each of the categories below.

#### Area of specialization<sup>4</sup>

- Civil & Environmental Engineering
- Environmental Engineering & Science

---

<sup>4</sup> The options below are specific to academic departments at Stanford University; these can be tailored in other settings.

- Environmental Fluid Mechanics & Hydrology
- Atmosphere & Energy
- Earth Systems
- Humanities & Sciences

Academic level

- Graduate
- Undergraduate

Team Preference

- Government
- Private company that allegedly violated the CWA
- No preference

Position Type Preference

- Technical position (inspector, engineer, manager)
- Lawyer
- No preference

Hierarchy Preference

- Leader or manager (this may involve additional work)
- Staff or supporting role
- No preference

Attitude Preference

- Aggressive, confrontational and/or “Type A”
- Accommodating, compromise seeker and/or “Type B”
- No preference

### 3. Role descriptions

For the negotiation exercise, students are divided into two teams (Aloha and Government). Based on responses to the role preference survey (Section 2), each student is assigned to a team and receives one of the individual role descriptions included below.

**Table 2: Team Organization**

Aloha	Government
<ul style="list-style-type: none"> <li>• Law Firm Partner (Team Coordinator)</li> <li>• Law Firm Associate (if used)</li> <li>• Aloha In-house Counsel</li> <li>• Corporate Environmental Official</li> <li>• Plant Manager</li> <li>• Plant Environmental Engineer</li> <li>• Aloha Consultant</li> </ul>	<ul style="list-style-type: none"> <li>• DOJ Lead Attorney (Team Coordinator)</li> <li>• DOJ Support Attorney (if used)</li> <li>• EPA Managing Attorney (if used)</li> <li>• EPA Staff Attorney</li> <li>• EPA Manager</li> <li>• EPA Enforcement Officer</li> <li>• EPA Inspector</li> <li>• State Enforcement Officer</li> <li>• State Inspector</li> </ul>

#### 3.1. Aloha team

##### 3.1.1. Law Firm Partner (Team Coordinator)

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Partner
- **Role and Responsibilities:** As a partner in the law firm, you are responsible for bringing in new clients and new cases, as well as managing the cases.

As team coordinator, your role is also to ensure that everyone plays a meaningful role in the negotiation. As coordinator, part of your grade will be based on your effort to do so. An example of how you may do this in the negotiation is to turn to one of your teammates, referring to them by their role, and say “as Plant Manager, is that acceptable to you?”

- **Experience in this position:** Seasoned veteran.
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you’re a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.

- **Compensation:** Very high, but depends on the amount of work you bring in for the firm, the amount of work you do personally and the success of your cases.

**Motivation and Perspective:** You are very successful and have a great track record of getting favorable settlements in cases. Aloha Manufacturing is a new client for you and you look forward to getting this case settled on very favorable terms for Aloha. In general, you don't think much of government attorneys and you think you'll be able to show them that they don't have much of a case against Aloha. Note, however, that the Board of Directors of Aloha has indicated that Aloha must avoid the publicity of a court trial on this case. Thus, it is possible to threaten to go to court as a negotiation strategy, but the Aloha team must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the Board's mandate to settle. In addition, you know that you'll have to work with the DOJ and EPA attorneys as well as the EPA program staff and management, in future cases. Therefore, you don't want to take a "scorched earth" approach in your dealings with them because that will make future negotiations more difficult. You are successful because you are clever and do your homework well. You want to show your client you can use that cleverness to outsmart the government rather than show belligerence that will simply burn bridges.

- **Relationships:** You are building relationships with Aloha since the company is a new client. You are focused primarily on Aloha's in-house attorneys and plant management.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)

**Style of working with others:**

You decide: conciliatory, cooperative, impatient, arbitrator, aggressive, other? However, your selection must be consistent with your motivation and perspective.

- 
- **Any special agenda(s):**
- **Case study information of particular interest to you:**

### **3.1.2. Law firm associate**

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Associate
- **Role and Responsibilities:** You do work assigned to you by partners.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran)
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or

something else and if your undergraduate experience is in an environmental or technical discipline.

- **Compensation:** Good salary with potential for significant bonus.
- **Motivation and Perspective:** You are a rising star. You have your sights set on making partner and this case will be another step in that process. The partner you're working for is a mover and shaker within the firm, and this case presents a great opportunity to build a relationship with him and impress him with your work. At the same time, you are aware that the Board of Directors of Aloha has indicated that Aloha must avoid the publicity of a court trial on this case. Thus, it is possible to threaten to go to court as a negotiation strategy, but the Aloha team must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the Board's mandate to settle.
- **Relationships:** You are working hard at building good relationships with the partner, with Aloha's in-house attorneys, and with Aloha management. You don't really pay attention to any staff-level people.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide (conciliatory, cooperative, impatient, arbitrator, aggressive, other)
- **Any special agenda(s):**
- **Case study information of particular interest to you:**

### **3.1.3. Aloha Manufacturing In-House Counsel**

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Assistant General Counsel, Environmental
- Role and Responsibilities:** You are responsible for all of Aloha's in-house environmental legal issues. In addition, you are the person to whom the law firm partner reports and you must approve of the team's positions and the approach the law firm partner takes in the negotiations.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran).
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Good salary and good bonus potential.
- **Motivation and Perspective:** This case is very personal. When the past problems occurred, your boss (the General Counsel) told you to make sure nothing like it happened again. You thought you had done what was needed to prevent recurring problems, but others appear to have dropped the ball. However, unless Aloha gets a good settlement,

you may end up with little or no bonus, and you may lose your job. . Given these circumstances, you feel responsible for ensuring that the large-group negotiations go smoothly, and you have significant influence given that the law firm partner must report to you.

- **Relationships:** You have good relationships with the law firm lawyers. But you have a hard time with Aloha people involved in the case, given that their mistakes may cause you to lose your job.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide (conciliatory, cooperative, impatient, arbitrator, aggressive, other)
- **Any special agenda(s):**
- **Case study information of particular interest to you:**

### 3.1.4. Corporate Environmental Official, Aloha Manufacturing

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Environmental Engineer, Corporate
- **Role and Responsibilities:** Working from the corporate office, you are responsible for assisting plant-level environmental officials with their environmental obligations.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran)
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Decent salary and OK bonus potential.

**Motivation and Perspective:** You have a thankless job. Your management expects you to protect the corporation by ensuring that all of Aloha Manufacturing's plants comply with all environmental laws. However, you have no direct authority over the plant-level environmental officials – they report to plant management not to you. You've tried to point out this structural problem to your management, but no one is willing to do anything about it. They just tell you to keep the company out of trouble. You think this case is a blessing in disguise. You've been telling the plant environmental engineer to straighten things out and he hasn't. Now, EPA and DOJ are involved. While you'd never tell this to anyone for fear of getting fired, you'd like to see Aloha get a huge fine, so that maybe management would realize that the problems at the plant you've been talking about are real. You think this could be the case, since the Board of Directors of Aloha has indicated that Aloha must avoid the publicity of a court trial on this case. Thus, while it is possible to threaten to go to court as a negotiation strategy, the Aloha team must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the Board's mandate to settle.

- 
- **Relationships:** You have good relationships with most plant environmental staff, but not the environmental engineer responsible for this plant. You think the plant manager is a right-wing extremist who has the attitude toward environmental compliance of certain types of people from the very early days of environmental regulation.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide (conciliatory, cooperative, impatient, arbitrator, aggressive, other)
- **Any special agenda(s):** Get the environmental engineer at this plant fired and get corporate management to give you direct authority over all plant-level environmental engineers.
- **Case study information of particular interest to you:**

### 3.1.5. Plant Manager, Aloha Manufacturing

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Plant Manager
- **Role and Responsibilities:** You are the individual responsible for the facility that is the subject of the enforcement action.
- **Experience in this position:** Seasoned veteran.
- **Background:** You decide (engineering, geology, ecology, environmental management or law).
- **Compensation:** Good salary with potential for great bonus.

**Motivation and Perspective:** You've worked hard for Aloha and it has paid off for you. You strongly believe in free enterprise and in the ability of people to rise to the top. You think government should stay out of the way of those that create the economic engines of the world. You think that if the government and the environmentalists had their way, they would shut down all industry, which you think would turn the US into a third-world country. You're satisfied that if Aloha is doing its best to handle its effluent, that's good enough for you. You are thankful that Aloha has connections to some people in the upper echelons of government, who might be able to make this problem go away. This is especially true given that the Board of Directors of Aloha has indicated that Aloha must avoid the publicity of a court trial on this case. Thus, while it is possible to threaten to go to court as a negotiation strategy, the Aloha team must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the Board's mandate to settle.

- 
- **Relationships:** You like Aloha people, you dislike government officials, and you can barely tolerate attorneys of any stripe.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)

- **Style of working with others:** Impatient and aggressive
- **Any special agenda(s):**
- **Case study information of particular interest to you:**

### **3.1.6. Plant Environmental Engineer, Aloha Manufacturing**

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Environmental Engineer
- **Role and Responsibilities:** You are responsible for all environmental matters related to the Aloha Manufacturing plant that is the subject of the enforcement action.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran)
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Decent salary and good bonus potential.
- **Motivation and Perspective:** You're a good soldier. You don't have strong political ideas or strong "industry v. environment" ideas, but you know the plant manager does. You try to do what you can to keep the plant in compliance, but you also know that your boss and the plant manager go ballistic if you exceed your very tight budget. Sometimes that means you can't do everything you ideally should do (or that the perfectionist Aloha corporate environmental official wants done), but the Plant Manager calls the shots and you take orders from him. In this particular case, the Board of Directors of Aloha has indicated that Aloha must avoid the publicity of a court trial on this case. Thus, it is possible to threaten to go to court as a negotiation strategy, but the Aloha team must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the Board's mandate to settle.
- **Relationships:** You try to get along with most everyone. The only person you have problems with is the corporate environmental official, who you think is always trying to make you look bad.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide (conciliatory, cooperative, impatient, arbitrator, aggressive, other)
- **Any special agenda(s):** You'd like to get the case over with as soon as possible so your working life can return to normal.
- **Case study information of particular interest to you:**

### **3.1.7. Consultant to Aloha Manufacturing**

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Principal
- **Role and Responsibilities:** As a Principal in the consulting firm, you are responsible for bringing in new clients and new projects, as well as managing the projects.
- **Experience in this position:** Seasoned veteran
- **Background:** You decide (engineering, geology, ecology, environmental management or law).
- **Compensation:** Good salary and good bonus potential.
- **Motivation and Perspective:** This is a tough project for you. You see that Aloha has done some things wrong and you know they're going to need to pay a decent penalty to settle the case. You've tried to tell Aloha officials this, only to have the plant manager tear into you for suggesting that the company give in to unreasonable government demands. At the same time, it appears to you that EPA and DOJ are a little more worked up about the case than they should be. The question for you is how to help Aloha settle the case while still maintaining your credibility with the government officials, against whom you know you will be working in the future.
- **Relationships:** You make it a point to have good relationships with most Aloha personnel and most government officials involved in the case. That said, the Aloha plant manager's politics and environmental attitudes are too much for you to take, and the lead DOJ attorney's egotism is pretty irritating.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide as long as it is consistent with other aspects of your character description (conciliatory, cooperative, impatient, arbitrator, aggressive)
- **Any special agenda(s):**
- **Case study information of particular interest to you:**

## 3.2. Government team

### **3.2.1. US Department of Justice Lead Attorney (Team Coordinator)**

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** DOJ Trial Attorney
- **Role and Responsibilities:** EPA has referred this case to DOJ so that a lawsuit can be filed against Aloha Manufacturing. You are the lead attorney for DOJ. If the case goes to trial, you will lead that effort. Because the parties are in settlement discussions, you are responsible for ensuring that the government gets an acceptable settlement agreement. From your perspective, you are in charge of the entire government team, including the EPA attorneys and EPA technical staff, as well as the state of Hawaii staff. After all, you need to be sure the United States gets a good deal from any settlement with Aloha.

As team coordinator, your role is also to ensure that everyone plays a meaningful role in the negotiation. As coordinator, part of your grade will be based on your effort to do so. An example of how you may do this in the negotiation is to turn to one of your teammates, referring to them by their role, and say “as Plant Manager, is that acceptable to you?”

- **Experience in this position:** Seasoned veteran
- **Background:** You decide. As a lawyer, you can decide if you have specialized in environmental law or something else; you can also decide if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Salary and modest end-of-year bonus for good performance. However, success in this case will enhance your prospects of getting promoted to a higher-salaried position.
- **Motivation and Perspective:** You work for DOJ because you believe in trying to protect and restore the environment. You take pride in your work and you work very hard to achieve great accomplishments. At the same time, it’s important that you get recognized for your accomplishments, and it is very important for you to be recognized as the leader of the government team. You expect others to defer to your experience, judgment and role as the lead trial attorney. Given the facts of this case, you think it’s a great opportunity to show your superiors and people at EPA how tough you can be on Aloha—this is a case to extract a pound of flesh. At the same time, the EPA Region 9 Administrator has indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator’s mandate to settle.
- **Relationships:** You have a reasonably good working relationship with the supporting DOJ attorney (if one is involved) and the EPA attorney. That said, you don’t think that they are appropriately respectful of your role as the lead attorney and suspect that they think that they could run the case better than you. You know full well that couldn’t possibly be the case.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide as long as it is consistent with other aspects of your character description (conciliatory, cooperative, impatient, arbitrator, aggressive)
- **Any special agenda(s):** You want the DOJ end-of-year award for achieving a settlement agreement that’s highly favorable to the government.
- **Case study information of particular interest to you:**

### 3.2.2. US Department of Justice Support Attorney

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** DOJ Trial Attorney
- **Role and Responsibilities:** As the “second chair” attorney, you support the lead DOJ attorney in prosecuting this case. As the less experienced supporting attorney, you handle the more tedious and mundane aspects of the case.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran)
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you’re a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Salary and modest end-of-year bonus for good performance. Success in this case may help your prospects of becoming lead attorney for the next case.
- **Motivation and Perspective:** You want DOJ management to realize you are ready to take on the lead attorney role in the next case. Because your long-term career goal is to be a partner in a major law firm, you want Aloha’s outside attorneys, particularly the partner, to recognize that you are a reasonable person who can see more than one side of that case and that you are not an environmental ideologue. You see an opportunity to contrast your approach with the zealotry of the lead DOJ attorney.
- **Relationships:** You have a decent working relationship with the lead DOJ attorney but don’t share his zealotry and desire to extract a pound of flesh from Aloha. You think you could get the case settled more easily by taking a more reasonable position that Aloha is more likely to accept. You have a very good relationship with the more level-headed of the EPA attorneys.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide (conciliatory, cooperative, impatient, arbitrator, aggressive, other)
- **Any special agenda(s):**
- **Case study information of particular interest to you:**

### 3.2.3. EPA Managing Attorney

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Associate Regional Counsel
  - **Role and Responsibilities:** You manage a group of attorneys that are responsible for enforcing the Clean Water Act. In addition, you are the person to whom the DOJ lead attorney reports and you must approve of the team's positions and the approach the DOJ lead attorney takes in the negotiations.
  - **Experience in this position:** Seasoned veteran.
  - **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
  - **Compensation:** Salary and bonus.
  - **Motivation and Perspective:** You've worked at EPA a long time. You've seen people come and go. You've seen those who are hard-hitting and burnout quickly, and you see around you lots of bureaucrats who have essentially retired on the job. Your approach is always to find the middle ground: work hard enough to get ahead, but don't kill yourself; push violators a bit, but not too hard and try to get settlements more quickly so that everyone can go home satisfied.
  - **Relationships:** You try to get along with everyone, and you often find yourself being the one who has to keep your own team working together, as well as being the one who tries to find a way to get cases settled.
  - **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
  - **Style of working with others:** Conciliatory and cooperative
- Any special agenda(s):** Get this case over quickly on reasonable terms. Otherwise it could end up being a political nightmare. In particular, the EPA Region 9 Administrator has indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator's mandate to settle.
- **Case study information of particular interest to you:**

#### **3.2.4. EPA Staff Attorney**

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Assistant Regional Counsel
- **Role and Responsibilities:** You are responsible for working with the EPA enforcement officer and, if necessary, the inspector to develop enforcement actions for Clean Water

Act violations. You are responsible for negotiating settlements of those actions. When needed, you prepare referral packages to send to US DOJ to get them involved.

- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran).
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Salary and modest end-of-year bonus.
- **Motivation and Perspective:** You like being an attorney and find the job interesting. The big issue is the pay. You're starting a family and need more money. Given the number of other attorneys that will vie for any management opening, some of whom have much more experience than you, a promotion appears unlikely. The better bet is to get a job with a private law firm, where you might be able to double your salary or more. But this poses an issue. You like doing your job well and getting good fines and penalties, but you can't come across as an ideologue or the outside law firms will never consider hiring you.
- **Relationships:** You have good relationships with people at EPA and the DOJ supporting attorney. However, you really don't like the lead DOJ attorney, who you think is self-absorbed and focused on getting all the credit for the government team's work.
- **Approach to task performance:** You are thorough and careful and have been diligent in developing this case. You think it's especially important for people to know that you, not the DOJ lead attorney, are responsible for putting the case together along with the EPA enforcement officer. You also want the Aloha outside law firm attorneys to see how hard you work and how good your work is so that they come away with a good impression of you.

**Style of working with others:** Generally cooperative, but dealing with the DOJ lead attorney is not an easy matter, particularly when you were the person who worked with the EPA enforcement officer to develop the case and now the DOJ lead attorney is taking over and acting like he/she is responsible for doing so. But you are especially focused on having the Aloha outside law firm attorneys see you as someone who can work constructively with others to get things done. **Any special agenda(s):** Show the attorneys at Aloha's outside law firm your skills and develop a relationship with them that might lead to them hiring you into their firm. In addition, the EPA Region 9 Administrator has indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator's mandate to settle.

- **Case study information of particular interest to you:**

### 3.2.5. EPA Manager

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the

opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Section Chief
- **Role and Responsibilities:** You manage a group of Clean Water Act inspectors (half of your group) and enforcement officers (the other half).
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran).
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Salary and modest bonus.
- **Motivation and Perspective:** You have had good success at EPA so far. You haven't ruffled many feathers, you've built relationships with the right people and you've taken on the non-controversial projects that allow you to get noticed without taking any risk of getting blamed for poor outcomes. You see yourself continuing to climb the ladder, earning more money over time, while sticking with an 8:30 to 5:00 schedule. While you're in charge of Clean Water Act inspections and enforcement, the job is a stepping stone and you'd like to get out of it as soon as possible. You don't see any good that can come from being part of enforcement actions against powerful companies that have connections to senior management.
- **Relationships:** You try to get along with everyone. You try to avoid controversy and get problems resolved quickly. The only people that trouble you are the zealots who always want to get big penalties and force companies to take expensive actions.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide (conciliatory, cooperative, impatient, arbitrator, aggressive, other)

**Any special agenda(s):** Avoid angering Aloha given their connections to senior EPA executives. In fact, the EPA Region 9 Administrator has indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator's mandate to settle.

- **Case study information of particular interest to you:**

### **3.2.6. EPA Enforcement Officer**

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you, consistent with the described role. You should feel free to embellish the assigned characteristics as you wish. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Enforcement Officer
  - **Role and Responsibilities:** Your job is to review inspection reports prepared by the inspectors, then work with attorneys to determine if enforcement action is warranted and, if so, to develop and issue the action. You are responsible for working with the attorneys to negotiate a settlement of the case or prepare to take it to an administrative hearing or trial.
  - **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran)
  - **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
  - **Compensation:** Salary and modest bonus.
  - **Motivation and Perspective:** You like your job. You like being able to take enforcement actions and force companies to fix their problems and clean up the environment. You believe that government officials should produce high-quality work, which you insist on from yourself and from others. Unfortunately, you don't see the people around you sharing that perspective. The inspectors in particular do sloppy work, often not properly documenting evidence of violations (then the inspectors blame you for not taking forceful enough actions against companies and dropping many alleged violations—something that particularly angers you). You'd like to get promoted to take over your boss's job and straighten the inspectors out. Your boss also does only so-so work and seems to be more concerned with impressing senior management than insisting on having his (or her) group do lots of high-quality work.
  - **Relationships:** Due to the issues described immediately above, you don't have very good relationships with the inspectors. You generally like them as individuals but you have very little respect for their work. Some of the EPA attorneys you like (the ones that are interested in doing good quality, hard hitting enforcement), and others you don't (the ones that you think are sell-outs who are just trying to impress the outside law firms so that they can get a high-paying job at one of them).
  - **Approach to task performance:** Per the above, thorough and exhaustive.
  - **Style of working with others:** With people like you who do good and careful work you are cooperative and constructive. But when interacting with people like sloppy inspectors and mediocre managers you are critical and impatient.
- Any special agenda(s):** Get promoted so you can insist on high-quality work from the inspectors and from your fellow enforcement officers. Additionally, the EPA Region 9 Administrator has indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator's mandate to settle.
- **Case study information of particular interest to you:**

### 3.2.7. EPA Inspector

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** EPA Inspector
- **Role and Responsibilities:** Your job is to inspect facilities to determine if they are in compliance with Clean Water Act requirements, including NPDES permit requirements. You inspect facilities then draft inspection reports that the enforcement officer and attorneys use to take enforcement actions. Sometimes you are called on to participate in settlement negotiations with parties you found to be in violation.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran).
- **Background:** You decide (engineering, geology, ecology, environmental management or law).
- **Compensation:** Salary and modest bonus.
- **Motivation and Perspective:** You aren't in this job because you're trying to climb the government ladder. In fact, you don't think much of the overly ambitious types that always kiss up to the boss in hope of the next promotion.
- **Relationships:** You have good relationships with the other inspectors who do field work like you and try to get companies to toe the line. You don't really have the time to deal with the bureaucrats who manage the place, the weak-kneed enforcement types and the attorneys who always seem to cave in to the companies.

#### **Approach to task performance:**

You like to take a general approach to doing your work. You don't need to get caught up in lots of little details like coming up with all the evidence to prove a company committed a violation. You believe you can determine fairly quickly whether or not a company is one that's trying to comply with the law, and you use your instincts and general observations to point out violations for enforcement people to work with. You get frustrated when people like certain enforcement officers and EPA attorneys get real picky about the evidence needed to prove a violation. You think if a company looks like a bad actor, EPA should go after them hard and not quibble over details.

- **Style of working with others:** You get along well with people that are like you and share your perspectives. But you tend to be impatient and passive-aggressive with people like picky enforcement officials and attorneys who tend to be demanding and too detail oriented. With them you tend to just ignore their requests or say you'll do something and then not bother to follow up.
- **Any special agenda(s):** You think Aloha is a really bad actor, but just hasn't been caught yet committing a criminal violation. You are really hoping that this time EPA management, attorneys and enforcement staff will have the guts to hit Aloha hard.

**Case study information of particular interest to you:** The hose that was left running all the time (see Case Study in Section 6). This looks to you like a blatant attempt to dilute the company's effluent to have a better chance at meeting permit limits. To you, if that's not an example of an environmental crime, it's certainly a basis for a very large penalty. On the other hand, the EPA Region 9 Administrator has indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator's mandate to settle.

### 3.2.8. State Enforcement Officer

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Enforcement Officer, State of Hawaii
- **Role and Responsibilities:** You take enforcement actions for violations of state environmental laws.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran)
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Salary that is barely sufficient.  
**Motivation and Perspective:** You feel very frustrated. You came into this job because you really wanted to have a tangible way to accomplish something good for the environment. But you keep coming up against small-state politics, where every good case you develop seems to be settled through some phone calls between company officials and the agency executives. Most every time you think you have a slam-dunk case, management ends up cutting a deal that gives the company only a slap on the wrist. As a result, you're really glad that EPA and DOJ are involved in this case given Aloha's history. You think they need to get hit with a big penalty or they're never going to change their ways. At the same time, the EPA Region 9 Administrator has indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator's mandate to settle.
- **Relationships:** You get along great with people who are serious about taking enforcement actions to protect the environment. You have no time for the go-along, get-

along types that don't seem to realize that it's the environment that suffers when the agency is passive.

- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** You decide (conciliatory, cooperative, impatient, arbitrator, aggressive, other)
- **Any special agenda(s):** Find any way possible to get EPA and DOJ to realize that Aloha really deserves a big penalty and expensive corrective measures.
- **Case study information of particular interest to you:**

### 3.2.9. State Inspector

Below is a summary of your position. Some characteristics are for you to decide; others are specified for you. You should feel free to embellish the assigned characteristics as you wish, consistent with the described role. You should interact with your own team members and the opposing team members from the viewpoint of this character. Keep in mind that some of the information about your position should be kept confidential from your own team members.

- **Position Title:** Inspector, State of Hawaii
- **Role and Responsibilities:** You inspect facilities to determine if they are in compliance with state and federal environmental requirements.
- **Experience in this position:** You decide your level of experience in this position (rookie, 2- 5 years, seasoned veteran)
- **Background:** You decide (engineering, geology, ecology, environmental management or law). If you're a lawyer, decide if you have specialized in environmental law or something else and if your undergraduate experience is in an environmental or technical discipline.
- **Compensation:** Salary that is barely sufficient.
- **Motivation and Perspective:** Hawaii is a small state. You don't get anywhere trying beat companies up. The way you get things done is by building relationships and persuading companies that it's in their interest to do things right, otherwise, the feds will step in. You think it's unfortunate that first EPA, and now DOJ, is involved in this case. To you, that looks like a disaster waiting to happen, unless there's a quick settlement.
- **Relationships:** You try to get along with everyone.
- **Approach to task performance:** You decide (minimalist, thorough, expedient, exhaustive, other)
- **Style of working with others:** Conciliatory and cooperative
- **Any special agenda(s):** Get the case settled quickly. In fact, in this case the EPA Region 9 Administrator has even indicated that in order to meet regional office targets agreed upon at EPA Headquarters, the government team must settle this case and not go to court. It is possible to threaten to go to court as a negotiation strategy, but the government must settle by the end of the negotiation exercise. Obviously, you should not let the opposing team know of the EPA Region 9 Administrator's mandate to settle.
- **Case study information of particular interest to you:**

#### 4. Gravity factor groups

During the exercise, each student works in one of four “gravity factor groups” corresponding to the factors themselves: (A) significance of effluent limit violations (the degree to which discharge limits are exceeded); (B) actual or potential health or environmental harm; (C) number of effluent limit violations; and (D) significance of non-effluent limit violations. Gravity factor groups are subsets of a team, and thus each student is assigned to both a team and a gravity factor group.

Table 3 below shows gravity factor groups for teams of 6-7 students. In our experience, we prefer the use of smaller teams to encourage participation from all members. However, instructors also have the option of using larger teams. In that case, Table 4 shows gravity factor groups for teams of 7-9 students. Table 4 also includes three additional roles for use with larger teams: (1) DOJ Support Attorney, (2) EPA Managing Attorney, and (3) Aloha Law Firm Associate. The complete set of role descriptions is provided in Section 3.

**Table 3: Gravity Factor Groups for Small Teams<sup>5</sup>**

	<b>Gravity Factor A</b>	<b>Gravity Factor B</b>	<b>Gravity Factor C &amp; gravity adjustments</b>	<b>Gravity Factor D</b>
<b>Government (6 people)</b>	<ul style="list-style-type: none"> <li>• State Inspector*</li> <li>• EPA Inspector*</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Manager</li> <li>• EPA Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Staff Attorney*</li> <li>• State Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Staff Attorney*</li> <li>• EPA Inspector*</li> <li>• State Inspector*</li> </ul>
<b>Aloha (5 people)</b>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*</li> <li>• In-House Counsel*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Consultant*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*</li> <li>• Consultant*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Corporate Env. Official</li> <li>• In-House Counsel*</li> </ul>

\* Role serves on two gravity factor groups

<sup>5</sup> Gravity Factor A is the least involved of the gravity factor groups. If there are fewer than 13 people participating in the exercise, the first role to be eliminated should therefore be State Inspector on the government team and/or the In-House Counsel on the Aloha team.

**Table 4: Gravity Factor Groups for Large Teams**

	<b>Gravity Factor A</b>	<b>Gravity Factor B</b>	<b>Gravity Factor C &amp; gravity adjustments</b>	<b>Gravity Factor D</b>
<b>Government (7 people)</b>	<ul style="list-style-type: none"> <li>• State Inspector*</li> <li>• EPA Inspector*</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Manager</li> <li>• EPA Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Managing Attorney</li> <li>• EPA Staff Attorney*</li> <li>• State Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Staff Attorney*</li> <li>• EPA Inspector*</li> <li>• State Inspector*</li> </ul>
<b>Aloha (6 people)</b>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*</li> <li>• In-House Counsel*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Consultant*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*Consultant*</li> <li>• Law Firm Associate</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Corporate Env. Official</li> <li>• In-House Counsel*</li> </ul>

\* Role serves on two gravity factor groups

## 5. Student guide

Following the initial lecture, students receive their individual role descriptions (Section 3), team and gravity factor group assignments (Section 4), and copies of the student guide and case study. A sample student guide is provided below. A sample case study is provided in Section 6.

### **Environmental Enforcement Exercise: Description and Schedule**

This handout explains the exercises you will perform as a follow-up to the class presentation delivered by a guest lecturer on the subject of environmental regulatory enforcement. The information is presented in four parts: (1) Overview of the Exercise; (2) Schedule Summary; (3) Detailed Schedule; and (4) Detailed Information for Individual Assignment (BEN Model).

#### **I. Overview of the Exercise**

In this assignment, students are grouped into two teams: one comprised of EPA, state, and US Department of Justice (DOJ) officials (government team), and the other a collection of Aloha Manufacturing representatives (Aloha team). Based on the facts presented in the case study, the following has occurred:

- EPA referred the Aloha Manufacturing case to DOJ for filing of a civil lawsuit for alleged violations of the federal Clean Water Act (CWA). In keeping with standard agency practice, DOJ has sent a letter to Aloha, notifying them of the coming suit, but offering to delay its filing if the company chooses to negotiate a settlement agreement (to “settle out of court”).
- Aloha has decided to negotiate with DOJ. Now, both the Aloha team and the government team must determine what they believe is an appropriate penalty to settle all alleged CWA violations that EPA identified in its August BY7 and December BY9 inspections and subsequent evaluations (alleged violations that occurred before BY4 were resolved with the BY4 Consent Order).<sup>6</sup> Then the two teams must negotiate to reach agreement on a penalty amount that both sides can agree to so that no lawsuit needs to be filed.
- Failure to settle the case will be a major setback for both teams, as it means the lawsuit will be filed and extensive litigation work will follow. Not only is litigation very expensive and time consuming for both sides, but failure to settle the case will make both teams look bad to their management—as if they are people who cannot solve problems. On the other hand, if either team settles the

---

<sup>6</sup> Do not exclude any alleged violations that were identified during or after the August BY7 and December BY9 inspections, regardless of when any alleged violation occurred. Footnote 3 of EPA’s March 1, 1995 Interim Clean Water Act Settlement Policy explains the agency’s ability to include penalties in its settlement agreements for violations that occurred more than five years prior to an agreement

case on unfavorable terms, they will also look very bad to their management for “giving away the store” and letting themselves be outsmarted by the other side.

- Settlement of the case must include a penalty that is calculated in conformance with EPA’s March 1, 1995 Interim Clean Water Act Settlement Policy (CWA penalty policy)<sup>7</sup>, which is available at:  
[www.epa.gov/Compliance/resources/policies/civil/cwa/cwapol.pdf](http://www.epa.gov/Compliance/resources/policies/civil/cwa/cwapol.pdf)

The remainder of this handout provides details to follow in completing the exercises associated with this penalty negotiation. You will find that there are challenges and learning experiences throughout the exercise, including all of the following: individual factor group discussions, team wide strategy developments, and the full group inter-team negotiations. In past years, students have indicated that their work has been slowed by ambiguities in the facts (representing typical cases) and in the penalty policy (which is the applicable EPA policy currently in effect). These ambiguities have been left as a part of the exercise because many ambiguities in facts and policies are faced routinely in professional practice. Therefore, each time an ambiguity is encountered, each team will need to use its judgment to determine how to address it. If major issues are impeding progress, then please contact the course TA, the environmental professional who delivered the guest lecture, or the course instructor.

#### Gravity Component Factors

The process that will be used for determining the penalty is described in the CWA penalty policy<sup>8</sup>. One part involves a determination of any economic benefit associated with the alleged noncompliance, which will be treated as an individual assignment with specific instructions. This second part involves the so-called “gravity component.” Under the CWA penalty policy, the gravity component determination begins with the assignment of a score for each month in which a violation occurred based on the following four factors:

- Gravity Factor A: Significance of the Violation (for effluent limit violations),
- Gravity Factor B: Health and Environmental Harm,
- Gravity Factor C: Number of Effluent Limit Violations, and
- Gravity Factor D: Significance of Non-effluent Limit Violations.

#### Other Penalty Calculation Considerations

In addition to the gravity factors above, the CWA penalty policy provides for potential adjustment factors for the gravity component. Each team will need to decide if any of the *gravity* adjustment factors should apply and, if so, to what degree. The gravity component adjustment factors include:

- Flow Reduction Factor for Small Facilities,

---

<sup>7</sup> Students should not take into account the effect of EPA’s inflation adjustment regulations, unless the instructor directs otherwise.

<sup>8</sup> Technically, there is a 5-year statute of limitations. However, under certain circumstances, including this particular case, it is permissible to use data from all years provided. One circumstance is noted in footnote 3 of the CWA penalty policy: EPA may calculate a penalty that occurred more than five years before the complaint was filed, provided the total penalty does not exceed the statutory maximum penalty for five years of violation. Such an exceedance is unlikely given the policy’s rubric for calculating a penalty. Another explanation for extension could be a tolling agreement between the parties, which specifically allows for the continuation of negotiations while still being able to count all previous data.

- History of Recalcitrance Adjustment Factor,
- Quick Settlement Adjustment Factor, and
- Environmental Auditing Adjustment Factor

The negotiating teams will not consider the *overall* adjustment factors of the applicable penalty policy:

- Litigation Considerations,
- Ability to Pay, and
- Supplemental Environmental Projects.

## II. Schedule Summary

Task	Completion Date (relative to the final negotiation)
Initial Lecture	4 weeks prior
Exercise Prep & Team Organization	4 weeks prior
Individual Exercise	3 weeks prior
Group Exercise	
- Group Exercise Part 1	3 weeks prior
- Group Exercise Part 2	2 weeks prior
- Group Exercise Part 3	2 weeks prior
- Group Exercise: Preliminary Negotiation	1-2 weeks prior
- Group Exercise: Individual Meetings	1 week prior
- Group Exercise: Final Negotiation	Day of final negotiation

Based on the experience of students in prior years, work on the group exercise should begin as early as possible, as explained more below.

## III. Detailed Schedule

### Week 1: Initial Lecture

Guest professional lectures on the theory and practice of environmental enforcement in general and the calculation of economic benefit of noncompliance in particular. Lecturer introduces the case study that will be the subject of the two homework assignments:

- BEN Model - Individual exercise in which students calculate the economic benefit of noncompliance.
- Penalty Negotiation - Group exercise in which the class will calculate and negotiate an overall penalty to settle violations of the CWA.

The last portion of the class (about 15 to 20 minutes) is spent organizing the students into teams: a government team and a company team. Each student will receive a position description that provides specific information about the role, including the character's

motivation, perspective, and temperament. Students should feel free to embellish their roles further by adding attributes they select, consistent with the assigned role. Some of the position descriptions also suggest issues that students should pay particular attention to in calculating and negotiating the penalty. The student’s ability to stay “in character” during the exercise will count towards the class participation portion of their grade.

Week 1: Exercise Preparation and Team Organization.

Following the initial guest lecture, students should familiarize themselves with the case study and the pertinent parts of EPA’s CWA penalty policy.

The CWA penalty policy requires the user to determine an appropriate score for each month in which a violation occurred, considering four separate gravity factors. The policy also allows the user to make adjustments to the penalty for various matters. The entire team will be responsible for deciding on the values to use for each gravity factor for each month, as well as application of any gravity adjustment factors. However, to help manage the workload, each student will be assigned to a “gravity factor group,” which will have lead responsibility for:

1. Learning the assigned gravity factor in greatest depth.
2. Considering the best options for applying the gravity factor to the case study data.
3. Guiding the entire team’s discussion of which values to assign to that gravity factor so that the team reaches consensus (if possible) on scores for that gravity factor.

Members of each team will be assigned to a gravity factor group as follows<sup>9</sup> (note that three roles will serve on two groups):

**Gravity Factor Groups for Small Teams<sup>10</sup>**

	<b>Gravity Factor A</b>	<b>Gravity Factor B</b>	<b>Gravity Factor C &amp; gravity adjustments</b>	<b>Gravity Factor D</b>
<b>Government (6 people)</b>	<ul style="list-style-type: none"> <li>• State Inspector*</li> <li>• EPA Inspector*</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Manager</li> <li>• EPA Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Staff Attorney*</li> <li>• State Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Staff Attorney*</li> <li>• EPA Inspector*</li> <li>• State Inspector*</li> </ul>
<b>Aloha (5 people)</b>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*</li> <li>• In-House Counsel*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Consultant*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*</li> <li>• Consultant*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Corporate Env. Official</li> <li>• In-House Counsel*</li> </ul>

\* Role serves on two gravity factor groups

<sup>9</sup> For Instructors: The table immediately below shows gravity factor groups for teams of 6-7 students. In our experience, we prefer the use of smaller groups to encourage participation from all members of a team. However, instructors also have the option of using larger groups; in that case, please refer to Table 4 in Section 4 that shows gravity factor groups for teams of 7-9 students. Additional role descriptions can be found in Section 3.

<sup>10</sup> Gravity Factor A is the least involved of the gravity factor groups. If there are fewer than 13 people participating in the exercise, the first role to be eliminated should therefore be State Inspector on the government team and/or the In-House Counsel on the Aloha team.

**Gravity Factor Groups for Large Teams**

	<b>Gravity Factor A</b>	<b>Gravity Factor B</b>	<b>Gravity Factor C &amp; gravity adjustments</b>	<b>Gravity Factor D</b>
<b>Government (7 people)</b>	<ul style="list-style-type: none"> <li>• State Inspector*</li> <li>• EPA Inspector*</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Manager</li> <li>• EPA Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Managing Attorney</li> <li>• EPA Staff Attorney*</li> <li>• State Enforcement Officer</li> </ul>	<ul style="list-style-type: none"> <li>• EPA Staff Attorney*</li> <li>• EPA Inspector*</li> <li>• State Inspector*</li> </ul>
<b>Aloha (6 people)</b>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*</li> <li>• In-House Counsel*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Consultant*</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Env. Engineer*Consultant*</li> <li>• Law Firm Associate</li> </ul>	<ul style="list-style-type: none"> <li>• Plant Manager*</li> <li>• Corporate Env. Official</li> <li>• In-House Counsel*</li> </ul>

\* Role serves on two gravity factor groups

The gravity factor group will be responsible for recommending to their teams how the violations should be scored according to that portion of the penalty policy. Each gravity factor group should become familiar with the data and then meet to start thinking about how they will develop scores for their factor.

Week 2: Individual Exercise.

Students each complete individual BEN model calculations to submit in class during the second week. Detailed information for the assignment is provided in section IV of this document. In addition, the teaching assistant will hold a help session for the BEN model prior to the due date for the assignment, which will be used later in the overall negotiation exercise.

Week 2: Group Exercise Part 1.

Each team (Aloha and government separately) prepares its initial penalty calculation. This likely will require two or more meetings so that the entire team can work through the appropriate scores to assign gravity factors for each month.

- At the team meetings, each gravity factor group will lead the team’s discussion of its factor and facilitate the team reaching a decision, preferably by consensus. The Team Coordinator will facilitate the team’s overall discussion. For the economic benefit component, each team can use a range based on team members’ individual calculations, an average of individuals’ calculations, or any other figure the team is comfortable with. However, the team should NOT spend much time on economic benefit issues, as the focus of the exercise is on the gravity component, gravity adjustments, and negotiation. As noted in the table above, Gravity Factor C Group will be responsible for recommending any gravity adjustments and leading the team’s discussion of those.

- The Team Coordinator will take all gravity factor scores and use them to calculate the overall penalty, which the entire team will need to determine is appropriate (i.e., does the overall number fit a big-picture assessment of the nature of the alleged violations?). For convenience in keeping track of scores, each Team Coordinator is encouraged to set up a spreadsheet before the first team meeting. In this way, the coordinators can enter scores as they are determined by team members and readily calculate the resulting penalty amount.
- Based on past experience, the exercise will work better if students start early so that teams can have as many meetings as needed to agree on their penalty calculations and negotiation strategies.

At the start of Week 2, each team turns in (and hands over to the other team) a *summary* of their total initial penalty offer. The handout should list the amount for the economic benefit component, the gravity component, any gravity adjustments, and the total figure. Each team also has the option of handing the other team (and handing in) a *detailed* calculation of their proposed penalty at that time. It is recommended that the teams work out rules ahead of time for exchanging information at the negotiation session (e.g., what kind of information to exchange, in what format, at what level of detail, etc). This will be especially helpful during the preliminary and final negotiations because it will save valuable time from deciphering the other team's methodology, and allow groups to focus on the bigger picture in the negotiation. For this same reason, groups are also encouraged to consider using individual print-outs, powerpoint slides, or other forms of visual aids at negotiation sessions.

### Week 3: Group Exercise Part 2.

Students in a particular gravity factor group (e.g., Government Gravity Factor A Group) send an email to their counterparts on the opposite team (e.g., Aloha Gravity Factor A Group) indicating the basis for their scores (e.g., scores for Gravity Factor A). If a gravity factor group has a certain calculation procedure (e.g., determining the appropriate Gravity Factor A score for each month within the range allowed by the policy), they may (or may not) choose to share that with their counterparts on the opposite team. If the previous week's information exchange involved sharing only a summary of the penalty offers, the teams can decide whether to share at this stage more *detailed* information about their calculation of the entire penalty, such as the spreadsheets they used to compute what they believe is the appropriate penalty. Again, clarity in procedures early on will pay off during the final negotiation session.

Following the above-noted exchange of information via email, the two teams' gravity factor groups meet with each other in person for no more than two hours to get as far as they can in negotiating a *tentative* agreement regarding their factor (e.g., Government Gravity Factor A Group meets with Aloha Gravity Factor A Group). However, the groups are not to finalize any agreements.

### Week 3: Group Exercise Part 3.

Students meet separately as a team (Aloha and EPA) to discuss progress made regarding individual gravity factors and issues, and to decide on an overall strategy for the preliminary negotiation in class in Week 4.

#### Week 4: Preliminary Negotiation.

This is the first of two formal negotiations between the Aloha and EPA teams. The purpose of this initial negotiation is to identify and settle on the points on which both teams agree, and identify the remaining points of contention that will be addressed in the final negotiation. The actual negotiation time should be kept to 30 minutes.

#### Week 4: Individual Team Meetings.

For the second class session of Week 4, the lecture ends early. In the remaining class time, students meet separately as a team (Aloha and EPA) to discuss progress made regarding individual gravity factors and issues, and to decide on an overall strategy for negotiating the final penalty in class. If either team needs additional time for this work, they will need to meet outside of class prior to the final negotiation.

#### Week 5: Final Negotiation.

The final negotiation occurs during class at the end of Week 3. The negotiation is structured as described below.

5 minutes- Opening Statements

- After the guest professional's opening remarks, Team Coordinators give a short introduction (2 minutes each) to the class that communicates their current penalty proposal to the other team and generally how it differs (if it all) from their prior offer. If applicable, this introduction should cover whether offers initially made by the two teams are closer or further apart.

40 minutes- Full class meeting for negotiations

15 minutes- If needed, each team holds a caucus

15 minutes- Full class meeting to finalize negotiations and, if possible, reach agreement

35 minutes- Presentation of results and debriefing

Each student makes a brief individual presentation (1-2 minutes) explaining what he or she tried to accomplish in the negotiation, how his or her character role affected the penalty development and negotiation process, how he or she tried to achieve certain objectives, and/or observations made about the penalty calculation and negotiation. Team Coordinators make their presentations last. Conversation continues after class over beverages at a local coffee shop (optional).

#### **IV. Detailed Information for Individual Exercise (BEN Model)**

Use EPA's BEN Model and the facts listed in the case study to calculate Aloha Manufacturing's economic benefit of non-compliance for the violations identified in the August 2008 and December 2010 inspections.<sup>11</sup> The BEN Model is available at: <http://www.epa.gov/compliance/civil/econmodels/index.html>

---

<sup>11</sup> Students should be aware that there are other views on the appropriate methods to determine economic benefit of noncompliance, as explained during the lecture and in numerous papers. Among other matters, critics of the BEN model take issue with the way in which the present value determination is performed and the interest rates used in the calculation. An overview of the different perspectives on EPA's theory and approach to economic benefit calculation in general and issues associated with the BEN model in particular may be found in three Federal Register notices published by EPA: 61 Fed. Reg. 53026 (October 9, 1996), <http://www.gpo.gov/fdsys/pkg/FR-1996-10-09/pdf/96-25893.pdf>; 64 Fed. Reg. 32948

Assume the following:

- Only consider information that is related to the water treatment systems. The cost figures are based on values estimated at the time the costs were actually incurred or required to be incurred.
- The parties will reach agreement on a penalty and other terms and will memorialize their agreement in a new settlement agreement (“BY10 Settlement Agreement”). The BY10 Settlement Agreement will require the company to install the originally required equipment by July 31, BY11.<sup>12</sup>
- The initial costs are capital expenditures (there are no one-time non-depreciable expenditures).
- The BY10 Settlement Agreement will require the company to pay the penalty at the end of the year, December 31, BY10.
- Default values in the BEN Model for number of replacement cycles and useful life are acceptable.

---

(June 18, 1999), [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=1999\\_register&docid=99-15271-filed.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=1999_register&docid=99-15271-filed.pdf); and 70 Fed. Reg. 50326 (August 26, 2005), <http://edocket.access.gpo.gov/2005/pdf/05-17033.pdf>. However, for purposes of this exercise, EPA’s BEN Model will be used.

<sup>12</sup> Depending on the equipment that needs to be installed, it is common for settlement agreements to provide for installation of equipment months or even years following the date of the agreements due to the time needed for design and construction.

## 6. Case study

### Case Study: Aloha Manufacturing

Aloha Manufacturing (“Aloha”) is located in Oahu County, Hawaii. Aloha is a “C-corporation”<sup>13</sup> that engages in two types of operations. The company manufactures equipment used for macadamia nut processing, pineapple canning and shave ice retailing. During harvest months, the company also processes macadamia nuts and performs pineapple canning. The company employs an average of 75 people for its core manufacturing operations, and during harvest months (June – November) Aloha hires an additional 45 people for macadamia nut processing and pineapple canning operations. Although not large, the company is considered a valuable contributor to Hawaii’s economy and, importantly, it has close political ties to the Governor of Hawaii, who is in the same political party as the President of the United States. Due to strong demands the company’s board has always placed on its executives, the company is as strong financially as it is powerful politically.

Aloha generates 25,000 gallons of wastewater per day from December through May, and 45,000 gallons per day from June through November. The wastewater flows through pipes to lagoons (formerly taro ponds) for settling prior to being discharged to a fresh water stream. The stream terminates at the Pacific Ocean not far from a popular public beach to the south and an area reserved for fishing by traditional Hawaiian methods to the north.

Aloha has been issued a National Pollutant Discharge Elimination System (NPDES) permit pursuant to the Clean Water Act (CWA) for its discharge.<sup>14</sup> The permit has the following monthly average effluent limitations:

#### Conventional pollutants:

Biological Oxygen Demand (BOD):	2.13 mg/l
Total Suspended Solids (TSS):	3.85 mg/l
pH:	6.5 to 8

#### Toxic pollutants:

Chromium:	2.77 mg/l
Copper:	3.38 mg/l
Nickel:	3.98 mg/l

<sup>13</sup> The EPA financial models’ treatment of taxation depends upon the type of corporation. Therefore, the nature of Aloha Manufacturing will need to be entered into the EPA BEN Model.

<sup>14</sup> This case study does not involve any issues related to the “pretreatment” provisions of the Clean Water Act. Those provisions address treatment of wastewater prior to its discharge into a municipal sewer system.

*Compliance History:*

- BY0: Inspection found recordkeeping violations and failure to maintain equipment in proper working order. A review of quarterly discharge monitoring reports (DMRs) revealed violations of pH limits and TSS limits. EPA sent the company its inspection report and asked the company to correct the violations.
- BY1: Inspection found that the violations had been corrected and effluent limitations were consistently met.
- BY3: Inspection in late BY3 found additional problems:
  - Failure to monitor effluent quality for eight separate months since BY1
  - Failure to maintain records properly
  - Failure to follow appropriate water quality data collection procedures<sup>15</sup>
  - Exceedances of effluent limits reported in DMRs
- BY4: Due to these repeat problems, EPA threatened to issue the company an administrative order unilaterally to compel correction of the violations and to order payment of a penalty. However, the company expressed a willingness to enter into an agreement with EPA that required Aloha to take corrective action, provided EPA did not assess a penalty.

After arduous negotiations, EPA and the company reached agreement in June of BY4. The parties documented the terms of that agreement in a written Administrative Order on Consent (“BY4 Consent Order”). This order resolved all prior violations and eliminated the need for EPA to issue the threatened unilateral order.

While the BY4 Consent Order did not include payment of a penalty, it required the company to do the following:

1. Install a chemical precipitation and filtration system to ensure that the company’s effluent discharge complies with permit limits. This system was estimated to cost \$750,000.<sup>16</sup>
2. Install and begin operating this equipment by December 31, BY4. The estimated costs of operating and maintaining this equipment was \$36,000 per year.

*Current Issue*<sup>17</sup>

- BY7: EPA inspected the Aloha facility again in August BY7. EPA found the following:<sup>18</sup>

---

<sup>15</sup> Of the samples collected, Aloha twice exceeded the maximum holding time of 48 hours for BOD analysis.

<sup>16</sup> The estimates for the capital investment and the O&M costs were valid as of June 2005, when EPA and Aloha signed the 2005 Consent Order.

<sup>17</sup> Footnote 3 of EPA’s March 1, 1995 Interim Clean Water Act Settlement Policy explains the agency’s ability to include penalties in its settlement agreements for violations that occurred more than five years prior to an agreement.

<sup>18</sup> There are circumstances where a Clean Water Act violation can be continuous for months, if not years. While EPA policies generally call for the agency to have evidence that a violation occurred for every day or month for which it seeks a penalty, agency policies allow officials to allege that there are such “continuing violations.” Penalties for continuing

- Aloha failed to maintain equipment maintenance logs as required in the following months: 12/BY4, 3/BY5, 6/BY5, 8/BY5, 1/BY6, 8/BY6, 11/BY6, 3/BY7 and 7/BY7.
  - Aloha failed to monitor effluent and submit DMRs for the following quarters: fourth quarter BY3 (DMR due 1/15/BY4), second quarter BY4 (DMR due 7/15/BY4), third quarter BY4 (DMR due 10/15/BY5) and fourth quarter BY6 (DMR due 1/15/BY7).<sup>19</sup>
  - The inspectors' review of DMRs that Aloha submitted showed several exceedances of effluent limits after the parties signed the 2005 Consent Order (see Table 1).
  - Aloha continued to apply questionable sampling methodologies: BOD holding times were exceeded during the second quarter BY5, first quarter BY6, third quarter BY6 and first quarter BY7.
- BY9: Case Development in BY9
- In developing the case further prior to referral to DOJ, EPA requested records from the facility, inspected the facility again in December BY9, and interviewed company personnel. Those efforts revealed the following:
    - Aloha failed to maintain equipment maintenance logs in the following months: 10/BY7, 2/BY8, 5/BY8, 9/BY8, 3/BY9 and 8/BY9.
    - Aloha failed to monitor effluent and submit DMRs for the following quarters: first quarter BY8, third quarter BY8, first quarter BY9 and third quarter BY9.
    - The inspectors' review of DMRs that Aloha submitted showed ongoing exceedances of effluent limits (see Table 1).
    - Aloha didn't install the required system because the company wanted to show the profit growth its investors were expecting. In BY5, the company executives were eligible to receive significant incentive bonuses if BY4 earnings met target levels. The cost of the required system threatened the achievement of that goal.
    - The inspectors found tap water from a hose flowing into the wastewater collection channel, effectively diluting the effluent. Some employees said that this "careless practice" happened "awfully frequently." The inspectors felt that the company may have been relying on this practice to dilute the effluent, making it easier to meet the effluent limits. The Clean Water Act prohibits such a practice, and deliberately engaging in such can constitute a crime.
    - The company attributes the pH exceedances to natural algal blooms in the lagoons.
  - EPA also found the following information pertaining to water quality impacts on the receiving waters:

---

violations may be assessed where there is clear evidence of the on-going nature of a violation, even if there is not direct evidence that the violation occurred on every day or every month of the time period at issue.

<sup>19</sup> DMRs typically are submitted once a quarter and contain the sampling data for all three months of the quarter. If the permit requires monthly or more frequent monitoring, the DMR will identify the sampling data obtained each month, week or day. In this case study, Aloha samples its effluent monthly; therefore each DMR will separately identify the results of monitoring for each month of the quarter. Aloha failed to monitor effluent for every month addressed by the DMRs listed.

- From August to November in BY6, BY7, and BY8, local fisherman complained about decreased catches and fish that “looked unhealthy.”
- Sampling by the State revealed exceedances of water quality standards<sup>20</sup> for total suspended solids<sup>21</sup> in the ocean in July BY5, September BY6, and December BY8.
- During November BY8, after “months of complaints,” local authorities closed the nearby public beach for one week due to “rotten pineapple odors.”

---

<sup>20</sup> Water quality standards are not the same as effluent limits. Pursuant to the Clean Water Act, EPA and states identify the maximum concentrations of contaminants that can exist in a given body of water in order to maintain the water body’s “beneficial uses.” Those concentrations are referred to as water quality standards, and they may be used in setting effluent limits in the permits of parties that discharge wastewater to the water body. The relative health of a water body can be determined, in part, by comparing measured concentrations of contaminants to the water quality standards.

<sup>21</sup> Total suspended solids is a measure of the concentration of materials in a water sample that will be filtered out using a 0.45 micron filter. Dissolved solids (e.g., simple anions and cations) pass through such a filter.

**Table 1**

Aloha Manufacturing Effluent Limit Exceedances  
(January BY1<sup>22</sup> – December BY8)

Month <sup>23</sup>	BOD	TSS	pH	Cu	Ni	Cr
Dec-BY8	2.8	4.41	6.0	3.49	6.02	4.22
Nov-BY8	5.13	4.82	6.3	5.29	IC	3.87
Oct-BY8	4.32	6.11	6.2	IC	IC	IC
May-BY8	IC	IC	IC	4.35	4.22	2.95
Apr-BY8	3.32	5.24	6.3	IC	IC	IC
Dec-BY7	5.51	10.22	IC	IC	IC	IC
Nov-BY7	3.30	5.51	6.1	IC	IC	IC
Oct-BY7	2.52	4.68	6.0	IC	IC	IC
Sept-BY7	5.10	6.95	6.2	4.22	5.14	4.85
Aug-BY7	IC	IC	IC	3.87	4.82	3.21
May-BY7	IC	IC	IC	3.39	4.21	2.85
Feb-BY7	IC	IC	IC	3.90	4.58	3.51
Jan-BY7	IC	IC	IC	4.17	5.02	4.25
Sept-BY6	IC	IC	IC	IC	4.10	2.86
Aug-BY6	3.30	3.88	6.4	3.69	4.28	2.99
Jun-BY6	2.77	6.46	5.9	3.82	4.12	3.10
Mar-BY6	IC	5.52	6.1	4.58	5.10	4.52
Feb-BY6	3.01	7.34	6.3	5.32	4.95	5.12
Jan-BY6	IC	IC	IC	4.11	IC	IC
Oct-BY5	2.36	7.11	IC	IC	IC	IC
Sept-BY5	2.34	15.45	5.9	IC	IC	IC
Aug-BY5	3.45	8.89	6.2	IC	IC	IC
Jul-BY5	IC	12.35	6.3	IC	IC	IC
Apr-BY5	IC	IC	IC	IC	4.23	3.23
Mar-BY5	IC	IC	IC	4.58	IC	5.26
Feb-BY5	IC	IC	IC	4.36	4.65	7.89
Jan-BY5	IC	IC	IC	3.68	IC	3.78
Nov-BY4	IC	IC	IC	3.65	4.25	3.12
May-BY3	2.36	5.66	IC	IC	IC	IC
Mar-BY3	6.21	9.45	6.3	IC	IC	IC

<sup>22</sup> As noted earlier, Aloha's effluent complied with permit limits in calendar year BY1.

<sup>23</sup> Aloha believes that the October and November BY8 sample results should be excluded from the dataset due to possible laboratory error. Furthermore, it is Aloha's belief that the September BY6 and May BY7 sample results should be excluded due to the confidence limits of the data and the marginal exceedances noted in the months mentioned.

Jan-BY3	2.76	6.86	6.3	IC	IC	IC
Oc-BY2	2.21	4.65	IC	IC	IC	IC
Sept-BY2	3.32	7.98	IC	IC	IC	IC
Aug-BY2	4.26	13.54	6.4	IC	IC	IC
Jul-BY2	2.69	6.53	6.3	IC	IC	IC
Jun-BY2	IC	IC	6.1	IC	IC	IC
Apr-BY2	IC	IC	IC	IC	IC	3.49
Mar-BY2	IC	IC	IC	5.4	5.61	6.23
Feb-BY2	IC	IC	IC	IC	5.79	4.15
Jan-BY2	IC	IC	IC	4.3	4.56	3.52

## Explanation:

- IC = In compliance
- The months listed are the only months for which effluent was sampled and found to have contaminant concentrations in excess of permit limits, as reported on the DMRs Aloha submitted. For all other months, either the effluent met the permit limits or no DMR was submitted. There is no other source of effluent sampling data.

## 7. BEN model instructions

The BEN model is used to calculate what EPA believes is Aloha's economic benefit of non-compliance for alleged violations of the CWA. The following handouts are distributed to students to provide instructions for using the BEN model (Section 7.1) and additional background on the concept of discounted cash flow analysis (Section 7.2).

### 7.1. Simple manual for downloading BEN model

#### Simple manual for BEN model

Download the BEN Model available at <http://www.epa.gov/Compliance/civil/econmodels/>. You may choose to install all five enforcement economic models offered, but we will only be using the BEN Model.

NOTE: The BEN Model will not run on Mac computers, so please try to use a friend's PC to complete the assignment. If you have any trouble accessing a computer, let the TA know.

#### BEN MODEL

1. Locate the BEN Model under Start > Programs and open the model.
2. When the window called "untitled" appears, enter appropriate information:

Left hand side:

- a) Case Name: any name you like. [e.g., 'Aloha']
- b) Office/Agency: the government agency you are dealing with. [e.g., EPA Region 9]
- c) Analyst: your name
- d) Entity: enter the type of corporation
- e) State: state where the violations occurred
- f) Do not check "Taxes have been Customized"
- g) Penalty Payment Date

Right hand side:

- h) Make up a name for your "New run." [e.g., 'Run 1']
  - i) Click "add"
  - j) With your case name highlighted, click "Enter/Edit."
3. A second window will open. Enter the appropriate data as determined by the case.
  4. Click on "Options." The BEN Model automatically calculates the "Discount/Compound Rate" from the entity type and relevant dates. "PCI" should be used as the cost index for inflation.
  5. Click "OK" twice to return to the first screen.

6. Now we are ready to run the program and get the results. Click “Calculate.” A table of results will appear that lists the “Final Economic Benefit.”
7. Print out the table and/or save your work.

## 7.2. DCF sample problems

### Discounted Cash Flow Analysis Example Problems

#### 1. Compound Interest

You take out a loan for \$10,000. The loan is repayable in 10 years and has a 9% annual interest rate. What is the amount you will have to pay back at the end of 10 years?

$$F = P(1 + i)^N$$

$$F = \$10,000 * (1 + 0.09)^{10}$$

$$F = \$23,674$$

#### 2. Economic Equivalence

You are given a choice to receive either \$3,000 at the end of 5 years or \$P today. Assuming an 8% interest rate compounded annually, what value of P is economically equivalent to \$3,000 in 5 years?

$$P = F / [(1 + i)^N]$$

$$P = \$3000 / [(1 + 0.08)^5]$$

$$P = \$2042$$

#### 3. Net Present Cost

XL Chemicals is thinking of installing a computer process control system in two years that will cost \$650,000 initially and \$50,000 per year to maintain. The expected life of the system is 10 years and the company’s cost of capital is 10%. What is the net present cost of the system today?

$$P_{total} = P_{capital\ cost} + P_{annual\ maintenance}$$

$$P = F / [(1 + i)^N]$$

$$P = A[(1 + i)^N - 1] / [i(1 + i)^N]$$

$$P_{total} = \$650,000 / [(1 + 0.1)^2]$$

$$+ \{ \$50,000 * [(1 + 0.1)^{10} - 1] / [(0.1) * (1 + 0.1)^{10}] \} / [(1 + 0.1)^3]$$

$$P_{total} = \$537,190.08 + \$230,825.21$$

$$P_{total} = \$768,015.29$$

4. Net Present Value

XL Chemicals is thinking of installing a computer process control system that will cost \$650,000. If the company buys the system now, they can expect an annual savings of \$162,500 over the system's expected life of 8 years. If the annual interest rate is 15%, what is the net present value of the project? Is the project an acceptable investment?

*Present Value (PV)*

$$PV_{net} = PV_{inflow} - PV_{outflow}$$

$$PV_{net} = A[(1 + i)^N - 1] / [i(1 + i)^N] - \$650,000$$

$$PV_{net} = \$162,500 * [(1 + 0.15)^8 - 1] / [(0.15) * (1 + 0.15)^8] - \$650,000$$

$$PV_{net} = \$729,190 - \$650,000$$

$$PV_{net} = \$79,190$$

*Yes, project is an acceptable investment because  $PV_{net} > 0$*

## 8. Exercise evaluation form

### Evaluation of the Simulation of an Environmental Penalty Negotiation

1. Area of studies:

\_\_\_\_\_  
(Please list both major and specialty)

3. Year of your study

- A. 1<sup>st</sup> year
- B. 2<sup>nd</sup> year
- C. 3<sup>rd</sup> year
- D. 4<sup>th</sup> year
- E. 5<sup>th</sup> year or higher

2. Your current status

- A. Undergraduate
- B. Masters student (including co-term)
- C. Ph.D. student

4. Your role in the negotiation

- A. Government Technical
- B. Government Lawyer
- C. Aloha Technical
- D. Aloha Lawyer

5. Your team (Circle one)

**Aloha 1**

**Aloha 2**

**Government 1**

**Government 2**

6. Were you adequately prepared for the penalty negotiation simulation? (Circle one)

**Yes**

**No**

7. If you answered no, what would have prepared you better?

8. How would you characterize what you learned by participating in the penalty negotiation simulation?

9. What did you like most about the simulation?

10. What did you like least about the simulation?

11. What would you change to make the penalty negotiation simulation more effective?

12. We would like to gain a sense of whether the negotiation exercise motivated you to do a more careful study of the environmental enforcement and compliance process than you would have done otherwise. Please indicate (by circling a number) how you prepared for your role in the simulation.

	Less than Usual		As Usual		More than Usual
Reading of Course Textbook on Enforcement	1	2	3	4	5
Reading of Case Materials	1	2	3	4	5
Attentiveness to Classes on Enforcement	1	2	3	4	5
Participation in Class Discussions on Enforcement	1	2	3	4	5
Participation in Small Groups re: Negotiation	1	2	3	4	5

13. Evaluate (by circling a number), in comparison to “seminar type discussions and lectures,” the enforcement simulation as a tool for learning about each of the following:

	Less Useful		Similar		More Useful
The enforcement process	1	2	3	4	5
Negotiation procedures and tactics	1	2	3	4	5
EPA’s interests and constraints	1	2	3	4	5
The interests and constraints of industries	1	2	3	4	5
Dealing with incomplete information	1	2	3	4	5
Influence of personalities/agendas of individuals	1	2	3	4	5



20. Recall that *[insert name]* gave a guest lecture on environmental regulatory enforcement on *[insert date]*. What did you like best? What was your most significant learning?
  
21. What things could *[insert name]* do to improve the lecture to make it more beneficial or interesting for future classes?
  
22. Did you make any connection between what you learned in the simulation and the environmental work you plan to do during your career?
  
23. If you have other comments regarding the simulation, please indicate below; use the back of this sheet if you need more room.

**9. Peer evaluation form**

Instructors may find it helpful to use the peer evaluation form below. This form gives students the opportunity to evaluate the *other* members of their team in terms of performance. Knowing that they will be evaluated by their peers, many students will be motivated to do their fair share of the work involved in completing the simulation exercise.

**Team Performance Assessment—Negotiation Exercise**

*[Insert Government or Aloha] Team*

Please return in class on *[insert date]*

Your responses will be kept strictly confidential—only *[insert instructor name]* will review them.

- 1) Your name: \_\_\_\_\_
- 2) Please provide your perception of the contributions of team members to the team’s work. In doing so, here are the factors to consider:

- Shows up at meetings on time
- Carries out assigned tasks
- Produces high quality results

Please complete the table below by distributing 100 points between your teammates and yourself. In other words, if you think that your team of 7 members each expended the same effort on the project, then each person should be assigned 14.3 points (i.e., 100/7). If one person did 1/2 of the work of the entire team, she or he should get 50 points. Make sure that the column adds up to 100, apart from minor errors in rounding off.

Team Member’s Name	Effort Expended

## **10. Adaptation for high schools<sup>24</sup>**

The simulation could be adapted for use in high schools. It would be particularly valuable for regular and advanced placement courses in government and civics. In some contexts, it would also fit well in US history courses. The exercise would be of special interest to those schools in which students have relatively few opportunities to work in teams or to make oral presentations of their positions on issues.

Many high school students are familiar with group projects and take-home assignments, and thus those elements of the simulation exercise would not be foreign. Certainly, mandated curriculum standards would present constraints, but that would not preclude use of the simulation to enrich courses, particularly those in government or civics. Some students may find it challenging to meet with other students outside of class on their own. Therefore, it would be best to motivate all students to participate by including some kind of peer evaluation in the final assessment of student work.

### **10.1. Timing adjustments**

Timing of class periods would probably require adjustments. The simulation described in this manual is conducted at Stanford University using two 110-minute class sessions. In the initial session, the first half is used to launch the simulation by describing the approaches available to be used by EPA in responding to violations of its regulations; the second half of the class is used to give students their role assignments and describe the mechanics of the three-week exercise. The role assignments are made in advance of the first class session based on student responses to a simple survey in which they can indicate a preference for different roles.

In the second Stanford class session, students conduct the final negotiation during the first half of the class. They then de-brief in the second half of the class: each student takes a few minutes to present orally his or her reactions to the simulation process and any problems that were encountered. Following the individual presentations, the instructors provide a few minutes of collective feedback to the students about their experience with the negotiation process.

High school courses that meet for 90 to 100 minutes several days each week would require relatively minor adjustments. Notable changes would be needed for classes that meet 50 to 55 minutes per session, but it would still be feasible to run the simulation.

For a high school class meeting 50 to 55 minutes at a time, it would be necessary to divide the two Stanford sessions discussed above into four high school sessions. Consider the first Stanford session. For a high school class meeting 50 to 55 minutes per session, the first class

---

<sup>24</sup> We are pleased to acknowledge the help received while preparing this part of the manual from three current or former California high school social studies teachers: Pablo Aguilera, Jerry Underdal and Rosaleen Zisch.

would concern EPA's possible actions in response to violations of its regulations. On the following day, roles would be assigned and the exercise timeline explained. Nothing would be lost in dividing the first Stanford class into two parts to accommodate the shorter class times in a traditional high school course.

Now consider the second Stanford class session described above. For a high school class meeting only 50 to 55 minutes at a time, here also the exercise would be divided into two parts. On one day, the class would conduct the final negotiation. During the next day, the students would de-brief. Using two days would mean some loss of momentum and students might not be able to recall their reactions to the simulation process so easily. That is a disadvantage, but it does not rule out running the simulation.

## 10.2. Content and curricular adjustments

Two additional important adjustments would need to be made before the simulation would be useful in a high school context. First, the content of the simulation itself would have to be simplified. For example, instead of asking high school students to calculate the economic benefit of noncompliance using the BEN model, instructors could simply provide the value of the economic penalty to all students.

Second, a high school course (e.g., in government or civics) would have to be structured in such a way that students receive the appropriate preparation in advance of the simulation. This preparation could involve such subjects as passage of legislation by the US Congress, development of regulations by US government agencies, and introduction to the tools used by agencies to enforce compliance with their regulations. Ideally, the Clean Water Act and the regulations associated with the National Pollution Discharge Elimination System permit program could be used as examples when laws and regulations are discussed.

This second adjustment could be tied to mandated curriculum or standardized testing requirements. Given that understanding of how US laws and regulations are passed is fundamental knowledge for students in government or civics classes, information on these subjects would presumably fit well with curriculum and testing requirements. The simulated negotiation itself would provide enrichment inasmuch as the process of implementing laws and regulations may not be generally covered in classes. The exercise would allow students to be much more informed about the way government works than if they looked only at laws and regulations without considering implementation. By participating in the simulated negotiation process, students would have the opportunity to develop valuable life skills such as reading with a purpose, oral argumentation, negotiation, and working in groups.

## 10.3. Additional resources for teachers and students

The process of teaching about legislative processes could be tied to environmental issues without difficulty. An example of an interesting approach is given by a film that describes passage of an important amendment to a key environmental protection law: the Clean Air

Act. The film is called “An act of Congress: H. R. 6161.” Information on the film is as follows:

- The film was produced in 1979 by Learning Corporation of America, Northbrook, IL.
- The film was distributed by Simon & Schuster Communications.
- Summary: Uses the Clean Air Amendments of 1977 as a legislative case study to illustrate the lawmaking process by actually filming elected representatives as they struggle to translate the issues and conflicting desires of the people into a federal law. The film includes segments of committee hearings, strategy sessions, floor debates and joint House-Senate hearings, and follows the actions of key legislators.

Other relevant classroom background material exists on various websites, such as the sites of *California—We the People* (<http://www.cawtp.com>), and *Project Citizen California* (<http://california.projectcitizen.net>).

High school students may also find it motivational to read Internet sites and newspaper accounts that discuss the outcomes of penalty negotiations between EPA and firms that were alleged to have violated regulations. Such materials would not be difficult to find. For example, a Google search on January 6, 2011 using the keywords "EPA Settle Water Pollution Violations" yielded more than 300,000 responses.

Finally, application of the simulated negotiation in high school can extend beyond traditional classes. For example, the simulation could be useful in the context of "green academies" that have been introduced recently in a number of high schools. These are learning communities, sometimes referred to as “schools within a school,” that focus on environmental issues. As an example, see the website for the Woodside High School Green Academy ([http://www.woodsidehs.org/staticFiles/file\\_317.php#970](http://www.woodsidehs.org/staticFiles/file_317.php#970)). There is even a High School of Environmental Studies in New York City (<http://schools.nyc.gov/SchoolPortals/02/M400/default.htm>).

As detailed in Sections 10.1 and 10.2 above, the university simulation described in this Instructor’s Manual cannot be used in high schools without being modified. However, the steps required for adaptation are straightforward and not daunting. Once basic building blocks are put in place regarding how laws and regulations are created, high school students can use the simulated negotiation to learn about how government agencies implement the regulations they issue. The simulation could thus make an excellent end-of-term exercise for a high school course in government or civics.