



E-PARCC

COLLABORATIVE GOVERNANCE INITIATIVE

**Program for the Advancement of
Research on Conflict and Collaboration**

NEGOTIATING SCIENCE AND POLICY IN COLLABORATIVE HYDROPOWER LICENSING TEACHING NOTE

Summary and Learning Objectives

This simulation uses the Federal Energy Regulatory Commission's (FERC) integrated process for relicensing hydropower facilities to introduce students to multiparty negotiation and collaboration in a complex environmental decision-making setting. There are six parties that represent a range of interests and various types of regulatory authority and a facilitator role. This simulation can be run in five to six hours or up to 3 days.

This simulation highlights the role of technical and scientific information in environmental negotiations. Most environmental conflicts have technical dimensions and many include disagreements over data, over the collection or interpretation of that data, over missing data, or even over the access to and ownership of that data (Ozawa and Susskind 1985; Adler et al 2000). Often, stakeholders have significantly varying degrees of knowledge and understanding of scientific research and the technical implications of research, which can lead to misunderstandings. For some stakeholders, it can be difficult to translate their interests into specific levels of performance or to recognize tradeoffs that might be beneficial to them as well as to other parties. Scientific disputes are also often politicized, are sometimes viewed as proxies for partisan conflicts, and tend not to be resolved on technical grounds (Sarewitz 2004). Stakeholders, managers, scientists, and engineers often have differing views about what

This simulation was written by Nicola Ulibarri Postdoctoral Fellow, Bill Lane Center for the American West, Stanford University; and Kirk Emerson, Professor of Practice in Collaborative Governance at School of Government and Public Policy, University of Arizona. It was the winning simulation in E-PARCC's 2015-2016 Competition for Collaborative Public Management, Governance, and Problem-Solving Teaching Materials. The case is intended for classroom discussion and not to suggest either effective or ineffective responses to the situation depicted. It may be copied as many times as needed, provided that the authors and E-PARCC are given full credit. E-PARCC is a project of the Collaborative Governance Initiative, Program for the Advancement of Research on Conflict and Collaboration- a research, teaching and practice center within Syracuse University's Maxwell School of Citizenship and Public Affairs.

https://www.maxwell.syr.edu/parcc_eparcc.aspx

information is relevant and credible as well as which metrics and what scales for measurement are most appropriate. A process of joint fact finding has been useful in bringing stakeholders together to mutually agree on what information is required to make the best informed collective decision (Ehrmann and Stinson 1999; McCreary et al 2001; Karl et al 2007).

In this simulation, participants will experience how to seek their interests through advocating for specific studies that should provide credible information on the likely impacts of a relicensed dam on those interests. At the same time, they will learn about how other stakeholders seek support for their interests and together how they must negotiate the best-informed set of management conditions for the relicensing using the best available science.

This simulation exercise is designed for graduate students or professionals in a number of fields where multi-party interest-based negotiation is being taught, including: public administration, public policy, law, planning, environmental management, geography, hydrology, and engineering, among other fields. It is expected that before running this simulation, participants will have some grounding in multi-party negotiation and interest-based negotiation. While we have written the simulation to highlight the interplay between technical information and negotiation, instructors are encouraged to emphasize additional components of the simulation that will be especially relevant to their course objectives; for example, public administration students might focus on the nature of accountability in such collaborative processes; an environmental law class could spend some time investigating the broader regulatory structure and consider how stakeholders might act differently based on their legal authority; an environmental studies course might focus more on variable flow regimes and the hydrologic implications of different options; and a planning course might emphasize the demographic projections for the community and the implications for land use and recreation planning.

The key **learning objectives** for this simulation exercise are:

- To practice multi-party interest-based negotiation
- To understand the value of credible scientific and technical information in multi-party negotiations
- To understand the value and relevance of different kinds of scientific and technical investigations in providing useable knowledge
- To understand how the availability of shared scientific and technical information can shape preferences, negotiation strategies, and outcomes
- To become familiar with one way in which a public agency is integrating collaborative negotiation into its decision-making processes

Background for Silver Lake Dam Relicensing Simulation

Silver Lake Hydroelectric Project is located on the Silver River in the Silver Lake Mountain region of western Colorado. The facility is owned by Mountain Energy, also called “the licensee.” The project’s current 50-year operating license, issued by the Federal Energy Regulatory Commission (FERC), is due to expire in five years. Under the terms of the Electric Consumer’s Protection Act of 1986, FERC must balance between power and non-power interests in approving license requirements and must ensure that they conform to other pertinent regulations, including the Clean Water Act, the National Environmental Policy Act (NEPA), the Federal Power Act, and the Endangered Species Act. The group’s task is to develop a set of operating requirements to propose in the project’s license application that meet these criteria and that satisfy all parties participating in the relicensing.

FERC’s Integrated Licensing Process (ILP) was developed to increase collaborative engagement of the applicant with other stakeholders and agencies in order to improve relicensing decisions, reduce the overall time needed for permitting, and minimize legal challenges. The ILP begins with a scoping process to identify all resources that might be affected by the hydropower facility. The utility and participants then develop studies to quantify those impacts. Finally, after 1-3 years of technical studies, parties use the study results to suggest operating requirements via the license application. Once FERC receives the license application, they conduct an analysis under NEPA and determine the final contents of the license.

See *General Background Information* for additional detail on the relicensing process and *Instructions for Student Facilitator* for the process flow of the simulation.

Logistics

Roles: There are six stakeholders and a facilitator developed for this simulation. Depending on the size of your class, you could have 1-4 students per role and a 2-person facilitation team. The facilitator role is designed for students with some exposure to facilitation; the course instructor could also serve as the facilitator. For a large class, you could also conduct simultaneous independent simulations, and then compare processes and outcomes during the debriefing session.

Materials: In addition to this *Teaching Note* there are the following materials:

1. General Background Information
2. Six Role Descriptions (contain confidential information for each student role)
3. Instructions for the Student Facilitator

4. Four Stakeholder Worksheets
5. Study Results Summary (to be handed out after Stage 2 negotiations)
6. Glossary of Terms and Units

For the simulation, you will need to assemble easels, easel paper, and markers and have handouts copied. It will be useful to develop some outline powerpoints to introduce students to the case and to the timeframe and sequence of tasks.

Preparation for you: After reviewing all the materials for this simulation, you might want to read Ulibarri's (2015) study that summarizes the FERC relicensing process and provides more detailed context for these negotiations. In particular, the appendix to Ulibarri (2015) details several actual FERC relicensings and may be useful to provide a sense of the types of issues raised and how the negotiations can proceed. It is assumed that you are already well-grounded in interest-based negotiation. Adler et al. (2000) is also a useful introduction to the range of scientific and technical challenges that arise in environmental negotiations.

Preparation for students: Students should be familiar with interest-based negotiation and have a general orientation to environmental regulations and the role federal agencies play in managing energy and the environment. While it is not essential, some degree of familiarity with environmental science or engineering would be helpful. The more diverse the class, with students from various backgrounds and disciplines, the better. Assigning the Adler report might be helpful along with the FERC (2011) guide to the ILP process as a reference. Students should have reviewed the *(1) General Background Information* and their *specific (2) Role Descriptions* at the very least before arriving in class for the simulation. You will want to spend some time with the facilitator(s) to work out the agenda and provide some coaching.

Time Requirements: This simulation should be run in 5-6 hours (two 2.5 hour class periods), with advanced preparation and deferred debriefing. It could easily be expanded to a day-long simulation, an intensive weekend workshop, or run across multiple class sessions.

Worksheets: There are four worksheets for students to complete at different times before and during the simulation. Worksheets 1 and 2 are to be handed out before Stage 1 of the simulation starts to prepare students for their roles, including identifying their positions and interests and those of the other stakeholders. Worksheet 3 should be handed out prior to Stage 2 to help students figure out their study needs; for a 3-hour session, students should complete Worksheet 3 before class. Worksheet 4 should be handed out along with the study results prior to Stage 3 of the simulation to help them digest the study results and prepare for the final negotiation in Stage 4.

Sample agendas: Here are two sample agendas: one for a short 5-hour simulation, and another for a day long simulation.

Two Class Periods (2.5 hours/class) Scenario

- Requires prior discussion with class to review the simulation, hand out materials, and assign roles. Student must complete their role preparation ahead of time, including Worksheets 1-3. You will want to have also consulted with the student facilitator(s). Self-breaks only.

First Class Session

- 9:00 Party Preparation in Caucus
- 9:30 Introductions, Review Agenda, Develop Ground Rules and Decision Rules
- 10:00 Stage 1. Negotiation: Generate Scope of Potential Project Impacts
- 10:45 Stage 2. Negotiation: Determine Needed Studies
- 11:30 Adjourn [Hand out Study Results and Worksheet 4 for review between class sessions]

Second Class Session

- 9:00 Stage 3. Caucus: Review Study Results, Develop Negotiating Strategy
- 9:45 Stage 4. Negotiation: Develop Recommended Management Plan
- 11:00 Debrief

11:30 Adjourn

One-day Scenario

- Requires prior discussion with class to review the simulation, hand out materials, and assign roles. Students should at least read through background materials and their roles ahead of time.

- 9:00 Welcome and Review Agenda and Ground Rules for the Day
- 9:10 Individual stakeholder meetings (in teams when more than one person per role) to complete Worksheets 1 and 2
- 9:30 Stage 1. Negotiation: Generate Scope of Potential Project Impacts
- 10:30 Stakeholder meetings to complete Worksheet 3 to determine individual study needs
- 11:00 Stage 2. Negotiation: Determine Needed Studies
- 12:00 LUNCH BREAK (facilitator distributes study results and Worksheet 4)
- 1:00 Stage 3. Caucus: Review Study Results, Develop Negotiating Strategy
- 1:45 Stage 4. Negotiation: Develop Recommended Management Plan
- 3:00 Debrief
- 3:30 Adjourn

Debrief

In the debriefing session, students should be prompted to reflect on what they learned through the simulation. In particular, they should think about what was effective in their negotiating strategy and what they would do differently, how negotiating over scientific information was similar to or different from other interest-based negotiations they've seen, and how they think the overall structure of the relicensing affected the quality of negotiation. As an optional additional assignment, students can be asked to write a short reflection on some of the following questions.

Questions to guide post-simulation discussion:

1. What happened? How did you get there?
2. Are you satisfied with the outcome? Why or why not?
3. Are you satisfied with the process? Why or why not?
4. Let's give some feedback (and thanks) to the facilitator:
 - a. What did s/he do that was particularly helpful?
 - b. How could s/he have been more effective?
5. What was your negotiating strategy? How did it change over the stages of the negotiations?
6. How did the study results inform your interests and your negotiating strategy in the final stage?
7. What did you gain from negotiating around which studies to commission?
8. What kind of scientific or technical issues were raised through this simulation?
9. How did these issues affect the negotiations and the outcome?
10. In a real environmental negotiation, what would you have done differently?
11. What lessons have you learned about interest-based negotiation?
12. What lessons have you learned about the nature and role of scientific and technical issues in environmental negotiations?
13. What lessons have you learned about yourself? What do you need to work on to improve your negotiating skills?

References and Resources

Adler, Peter, et al. 2000. *Managing Scientific and Technical Information in Environmental Cases*. Washington, DC: Resolve.

Ehrmann, John R., and Barbara L. Stinson. 1999. "Joint fact-finding and the use of technical experts." *The consensus building handbook*. Thousand Oaks, CA: SAGE Publications. 375-99.

FERC. 2011. *Ideas for Implementing and Participating in the Integrated Licensing Process*. Version 2.0. <http://www.ferc.gov/industries/hydropower/gen-info/licensing/ilp/eff-eva/ideas.pdf>. The FERC hydropower relicensing website (<http://www.ferc.gov/industries/hydropower/gen-info/licensing/>) contains many other useful resources if students would like to learn more about the process or about hydropower.

Karl, Herman A., Lawrence E. Susskind, and Katherine H. Wallace. 2007. "A dialogue, not a diatribe: effective integration of science and policy through joint fact finding." *Environment: Science and Policy for Sustainable Development* 49, no. 1. 20-34.

McCreary, Scott T., John K. Gamman, and Bennett Brooks. 2001. "Refining and testing joint fact-finding for environmental dispute resolution: Ten years of success." *Mediation Quarterly* 18, no. 4. 329-348.

Ozawa, Connie P. 1996. "Science in environmental conflicts." *Sociological Perspectives* 39, no. 2. 219-230.

Ozawa, Connie P., and Lawrence Susskind. 1985. "Mediating Science-intensive Policy Disputes". *Journal of Policy Analysis and Management* 5, no. 1. 23-39.

Sarewitz, Daniel. 2004. "How Science makes Environmental Controversies Worse." *Environmental Science & Policy* 7. 385-403.

Ulibarri, Nicola. 2015. "Tracing Process to Performance of Collaborative Governance: A Comparative Case Study of Federal Hydropower Licensing." *Policy Studies Journal* 43, no. 2. 283-308.