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▶ Under the microscope:

The Environment, Health and Safety Management System (EHS-MS) initiative at MIT ~

Recently, Jim Curtis, Officer, Environmental Management Program interviewed Professor Susan Silbey, Professor of Sociology and Anthropology, about her current research. Professor Silbey has spent the past three years studying the development and implementation of the Environment, Health and Safety Management System (EHS-MS) at MIT. The following is a highlight of that interview.

JC: What features of this project make it worthy of your professional attention and funding from the National Science Foundation?

SS: In the June 2001 consent decree with the EPA, MIT agreed to create a system for managing environmental hazards in university research laboratories. The agreement and the mandated management system that came out of it are examples of a relatively new form of regulation. Although government regulation, from time immemorial, has attempted to manage some of the activities of private firms, this new strategy supplants older, more familiar policies that require the use of specific technologies or specific levels of performance. Importantly, although this MS strategy is initiated outside the firm or organization (by the government), it nonetheless locates the design, standard setting, and implementation of the regulation within the regulated organization itself, creating a form of private management in the public interest. From one point of view, this can be an example of self-governance; from another perspective, it is what sociologists and anthropologists call “governmentality,” or regulation at a distance.

JC: Your previous work has included a study of “The Common Place of Law” to quote the title of your book. This topic seems to be an outgrowth of that subject matter. Is “regulation” a common area of research?

SS: Yes and no. There is an abundance of scholarly research that tries to determine if regulation works, and whether it is cost effective; very few studies, however, look at the ground level – inside the organizations, at the workspaces and with employees – to trace the threads that connect the routines of daily work to the legal mandates and regulations. In other words, most studies try to measure variations in emissions, air quality, volumes of waste disposal, costs and resource allocations, but they rarely look at the cultural conditions that create degrees of compliance or resistance to regulation.

JC: So why are you going about the research from a different angle?

SS: In part, the typical research focus on the outputs of organizations rather than in their culture and routine practices has been a consequence of exclusion; researchers are often denied access to the workers and their spaces, with management insisting that data collection begin and end at the managerial level where the managers can better control what is learned.

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But because of the consent that we have been given by the Institute, the EHS staff, the faculty and the students, we are very fortunate to be able to conduct an in-depth analysis of organizational change and regulatory compliance.

By observing the invention of the new EHS Management System, its implementation and dissemination across very different organizational units (e.g., staff, faculty, committee, laboratories) at the Institute, we hope to describe the ways in which local organizational cultures influence environmental, health and safety practices and create, where it exists, what some observers call responsive regulation and the possibility of environmental sustainability.

JC: Does the Management System seem to be working, in your opinion?

SS: Very importantly, we do not evaluate what happens! We try to understand how organizations produce whatever it is they do without assessing whether what they do is good or bad, efficient or inefficient. We are interested in the dynamics of how organizations work in an effort to develop descriptions of how organizations change. While it may seem insensitive (we certainly do not mean it to be so), we are less interested in the particular people or even MIT, than we are in organizations more generally. We are trying to understand a more general phenomenon: how do organizations change. If in the course of events, we find out how the organization comes into compliance with regulations, so much the better.

JC: Can you explain a bit more about your research methods and objectives? What is it that you are trying to discover or identify?

SS: Regarding our methods, as social scientists, we do our work by writing texts, by circulating those texts, by teaching from and about those texts. Our goal is to add to the cumulating knowledge about organizations, about regulation, and about social change.

Regarding the objectives, we hope that the project will contribute to at least three scholarly fields and sets of texts:

(1) Regulation and social control: As we have already mentioned, we hope to advance current understanding of how regulation works by incorporating an in-depth analysis of the role of local organizational cultures into existing models of regulatory compliance. How, and in what ways, do local organizational cultures instantiate or challenge legal norms and regulations? What forms of surveillance and control operate, and with what effects, in professional/collegial versus bureaucratic/hierarchical organizations?

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► Making a List and Checking It Twice...

List of Particularly Hazardous Substances Now Available

By Marilyn Hallock

Particularly hazardous substances (PHS) are those chemicals with special acute or chronic hazards.

The Environment, Health and Safety Office recently reviewed 160 chemicals in use at MIT and has determined whether or not they meet the criteria to be classified as PHS.

Those substances that were evaluated have been compiled into a downloadable spreadsheet. The spreadsheet lists: chemical name, Chemical Abstract Service (CAS) Number, and PHS status. Criteria on which the status is based (carcinogen, reproductive toxin, and acute toxicity) is also listed.

Particularly hazardous substances must be used in "Designated Areas" and handled according to procedures outlined in the Chemical Hygiene Plan template. If you use a chemical that is not listed, it does not mean that it is not a PHS. An evaluation of hazards can be made using information in the Chemical Hygiene Plan template.

The following is the link to the Particularly Hazardous Substance Review for 160 MIT chemicals:

<http://web.mit.edu/environment/ehs/phs.html>

Any questions regarding chemicals or chemical use can be directed to the EHS Office by calling 2-EHSS (2-3477)

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(2) Popular cultures of law: The research will also analyze the meanings of law, regulation, and safe practices circulating among several occupational and normative communities: technicians, custodians, clerical staff, scientists and engineers, university administrators, in-house counsel, and government regulators. This study will expand the understanding of popular legal consciousness by examining a community where norms of consistency, authority, and due process are interpreted very differently than they are within the law. Moreover, we will be able to look at organizations where the bottom line and cost efficiency is only one of several operative values.

(3) Laboratory ethnographies: Finally, this project will contribute to the literature on laboratory practices – how scientists do their work at the bench – while focusing on the work of offices, occupations, and objects that mediate the worlds of science, law, and politics.

JC: Please describe how you go about the work. Are your methods common or somewhat atypical?

SS: We study local organizational cultures using a research method called fieldwork. Fieldwork activities include interviewing, observing, and collecting documents. It is sometimes supplemented by systematic data collection with standardized instruments such as small surveys. Fieldworkers try to inhabit the world of those they study. This means, according to John Van Maanen of the MIT Sloan School, “living with and living like those who are studied.”

We refer to the written product of the fieldwork as ethnography (study of the ethnos, or culture). This is a standard mode of research and representation for those who wish to describe the culture of a group or organization.

Specifically, we do our work by following and observing people doing their work, interviewing people formally and informally as they go about their daily activities. We write up our notes, reading and rereading them continually. We write memos or commentaries about our notes. Those ‘notes on notes’ might contain questions, hypotheses, and references to similar or contrasting examples in the scholarly literature. The notes refer to uncertainties as well as suggestions about what further to look at or look for, queries to us about what to do next, etc. Eventually, we systematically analyze our notes, transcripts of interviews, and memos. We keep all this material secure; we do not use real names in the written work. We keep the connection between actual persons and our descriptions separate by using pseudonyms and codes.

JC: Are there any special features of this project?

SS: Yes, there are two: the access we have been provided and the process of group ethnography.

As I stated above, there are very few studies of legal regulation that have had this degree of access and openness. It is this generosity and trust that permits us to do the research. Thus, we have a very special obligation not to violate that trust. We are mindful that ethnography “carries quite serious intellectual and moral responsibilities” as John Van Maanen puts it. In this regard, we believe it critical to the viability of the project and the trust we have been given that we do not identify actual people or name the specific institution. As it turns out, we will not be ready to publish any of the work for quite a number of years, certainly not before the consent decree is lifted.

The second innovative aspect of the project is that it is an example of group ethnography. Ethnography has traditionally been the work of a single investigator; this project has involved at least six investigators over the past three years: (Ayn Cavicchi, Ruthanne Huising, Tanu Ghosh, Katerina Ailova, Dorota Wotjas, and Abby Spinak).

JC: What do you do personally?

SS: I observe in several laboratories, which are my special sites, and I attend committee and staff meetings. I have also spent a little time actually working in some labs. (I completed my EHS training in January 2004 and have not completed the renewal as yet!) This hands-on work allows me a better sense of the connection between laboratory safety procedures and the results of experiments.

I also accompany the attorneys and EHS staff as they meet with individual faculty, department chairs, and EPA attorneys to collect information for designing the system and get feedback on the design as it is progressing. I conduct interviews with faculty, staff and attorneys.

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JC: What does your team do? How do you coordinate efforts?

SS: As I said, a full-time research associate and several graduate and undergraduate students support me in this project; they each have areas of the university and the project on which they focus. For example, Ruthanne paid special attention to the EHS Office and coordinators, and Tanu is following the IT design. Ayn goes to many of the meetings especially when I cannot.

I meet with each research assistant individually and we meet as a group weekly. The group meetings have turned into an ongoing seminar on socio-legal and science studies scholarship as well as fieldwork methods and theory. This process developed in part by observing how the laboratories worked, but also as graduate students began asking for instruction in fieldwork and undergraduates for research opportunities. I decided to collect them all into a group to respond to the teaching request and to be able to get my research done at the same time. It has become so successful that I have shared this experience with other scholars who are also developing what they have begun to call “fieldwork shops.”

From an educational perspective, the central virtue of this process is to remove the mystery that seems to attach to fieldwork whose techniques are too often buried behind the elegant presentation of the final published ethnography. By meeting weekly and discussing what we have been doing, debating points of interpretation and collectively critiquing the scholarly literature, we have turned this erstwhile solo journey into a collaborative learning and research engagement.

JC: Do you have any preliminary results or findings that you might be able to share?

SS: No!

Information about Professor Silbey’s research is available at the following link:

http://web.mit.edu/anthropology/faculty_staff/silbey/safe_science.html#links

Information about the EHS-MS is available at the following link:

<http://informit.mit.edu/ehs-ms/>

Brrrrm, Brrrrmm *(Continued from page 5)*

The survey asked commuters to provide information on when and how they came to MIT during the week of September 27. The survey also asked about various services offered at MIT including bike storage, shuttles, T-pass subsidies and hands free garage access.

Of the 17,729 students, faculty and staff asked to take the survey, 8,853 responded, which is an amazingly high participation rate of 49.9%. Excluding the students who live on campus, approximately:

15% of the respondents walked to MIT,

35% took public transportation,

12% bicycled, and

6% rode in a car- or vanpool.

About 25% of the respondents drove to MIT alone.

When respondents were asked the most important reason why they took public transportation, more than half of them said it was convenience.

Approximately fifteen percent of the respondents cited cost. Almost 70% of the survey respondents said they buy public transit passes through MIT. Most of the responders have ridden the Tech Shuttle, EZ Ride, or other shuttles, two percent have used preferential parking for carpools/vanpools, and ten percent have used a Zipcar.

To encourage participation a lottery was held from among those who completed the survey. 320 participants were awarded “TechCASH” (money added to your MIT ID card to make purchases at dining halls, bookstores, convenience stores, laundry, vending and CopyTech centers) and ten people won \$50 Zipcar Gift Certificates. Simcha Singer, a graduate student in the Mechanical Engineering Department, was the recipient of the Grand Prize, a 2004 Giant Rincon Mountain bike.