

## The Hughes Whistleblowing Case

Adapted from:

[http://computingcases.org/case\\_materials/hughes/case\\_history/hughes\\_case\\_history.html](http://computingcases.org/case_materials/hughes/case_history/hughes_case_history.html)

### Overview

In the mid 1980s, Hughes Microelectronics was manufacturing what were called hybrid microchips for use in guidance systems and other military programs. A series of environmental tests were specified by the government contract. But pressure to ship chips out on time to customers got in the way of complete testing. "Hot" chips, those needed right away for shipment were given preferential treatment by some in charge of the testing process and shipped without the proper tests being performed.

When computer chips are embedded in expensive weapons systems, the chips need to be tested to make sure they can withstand years of exposure to the extreme environmental hazards they might face (rapid changes in temperature, severe shock, changes in atmospheric pressure, etc.). These chips are sealed in containers to protect them from the environmental stress. The seals and the chips need to be tested to make sure they can withstand the stress. Unfortunately, the need to manufacture and deliver these chips on time can compete with the desire to test them thoroughly.

This case is about what happened when employees of Hughes Microelectronics noticed that these tests were being skipped. The decisions they made to report this makes this one of the classic cases in the history of whistleblowing.

### Background

Most of the chips that Hughes Microelectronics was making were of a special sort called "hybrids." Hybrid chips combine two different kinds of semiconductor devices on a common substrate. These hybrid chips are then hermetically sealed in metal or ceramic packages so they are protected from environmental stress and isolated in an inert atmosphere of helium and nitrogen. There were over 70 programs for which Hughes Microelectronics was manufacturing hybrid chips from 1985 to 1987. The chip for each program was different. Because of military secrecy as well as company secrecy, exact specifications of the chips are unavailable. But we provide an example of the sort of chip that was likely among the Hughes chips, an analog to digital converter.

The chips had to be tested not only for whether or not they worked correctly, but for whether or not they held up to standards in terms of their seal or their resistance to heat and shock. The records that Hughes kept regarding their testing showed that approximately 10% of the chips tested failed one or more tests. When a test fails, it does not mean the chip is bad. It might work fine, in fact. But if the seal is broken, water or air might get in over time and corrode the connections on the chip. The tests included things like various programs of temperature cycling, shock tests, and leakage tests.

The next section provides short summaries of five incidents in which Margaret Goodearl and Ruth Ibarra witnessed attempts to to bypass the appropriate tests. More detail is provided for some of the incidents (linked to the incident title).

### ***The Various Incidents***

Margaret Goodearl and Ruth Ibarra are the two whistleblowers in our case. Goodearl was in charge (along with Donald LaRue) of the floor area in which the testing was done. Ibarra was a quality control agent hired by the company to provide an additional audit of the accuracy and completeness of the tests.

#### **The Lisa Lightner Incident**

Lisa Lightner was an operator in environmental testing who conducted leak tests. In August of 1986, Donald LaRue ordered Lightner to pass a hybrid that she had tested to be a "leaker." Lightner, along with Goodearl, reported the incident to upper management. Goodearl was later threatened with loss of her job if she did not reveal "who the squealer was."

#### **The Shirley Reddick Incident**

Shirley Reddick was a worker in charge of sealing the lids onto the hybrid packages as well as the stabilization bake process. In October of 1986, Reddick had been ordered by Donald LaRue (a floor manager) to reseal some hybrids. A hybrid is not allowed to be resealed unless it has gone through a complicated and lengthy process, and a "decap" sticker had been placed on it. Reddick complained to Goodearl, who complained to upper management and she was again threatened with loss of her job.

#### **The Rachael Janesch Incident**

In the same month (October 1986), LaRue asked Rachel Janesch, another tester in the environmental area, to sign off a leaker as passing the leak test. Goodearl became involved in the reporting of this incident, and the parts were re-tested.

#### **The PLRS Incident**

Goodearl and Ibarra found a tote box of PLRS (Position Locating Reporting System) hybrids. PLRS most likely involved some sort of radar function. There was some blank paperwork on the lot travelers accompanying the PLRS parts, meaning that tests had not been run on them before they were passed on. After she reported this incident, Goodearl was told that she was not a part

of the team anymore, that LaRue did not trust her, and that her relationship with LaRue was like a divorce in that she was the one that was going to have to go.

Goodearl attempted to file harassment charges in Personnel following the incident. Goodearl was summoned into the office of a middle manager who had been given the harassment documentation by Personnel. He tore up the harassment charge in front of her, flung his glasses at her, and told her that he was going to fire her if she ever went above him to complain again. After this incident, LaRue was removed from his job and taken out of E-1000 in order to avoid further conflict. But his work still involved supervision of testing chips.

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### The AMRAAM Incident

Two hybrids destined for an air-to-air missile failed the leak test. LaRue placed these chips on his desk with the intention to pass them on without the test during the evening when Goodearl was not there. By this time, Goodearl and Ibarra were already talking with members of the Office of the Inspector General and were looking for evidence to prove that Hughes Aircraft was intentionally skipping tests. Goodearl and Ibarra photocopied the documentation from the chips showing that they had failed the leak test. They then replaced the chips and their documentation on the desk where LaRue has left them. A few days later they were shipped to a subsidiary of Hughes. They were intercepted by the Department of Defense. The two parts were subsequently tested and were revealed to be leakers.

### ***The decision to blow the whistle***

After Goodearl began to report the incident internally to upper management, Goodearl's performance reviews took a sharp drop. Her earlier reviews had been excellent and she had been promoted to her current position because of them. The feedback she was getting from upper management was clear, she had to shut up and get with the team, or lose her job.

Just before the AMRAAM incident, Goodearl and Ibarra, knowing that the series of incidents was likely to continue, placed a telephone call to the Fraud Hotline of the Office of the Inspector General. After several telephone conversations and face to face meetings, they agreed to begin to look for clear evidence of fraud. After the AMRAAM incident, Goodearl was laid off. Ruth Ibarra was transferred to another position that involved loss of most of her responsibility. She later left Hughes.

### ***Court Battles***

The Inspector General's office began an investigation in 1989, as soon as they received the clear evidence from the AMRAAM incident.

After Goodearl was laid off by Hughes in 1989, she filed a Wrongful Discharge suit against them. In 1990, Goodearl dropped this suit in favor of what is called a *qui tam* lawsuit in cooperation with Ruth Ibarra (now married with the last name Aldred). The two whistleblowers claimed in

their suit that Hughes was defrauding the Government in its microcircuit testing procedures. Specifically, the civil suit charged Hughes with "knowingly presenting, or causing to be presented, false or fraudulent claims against the United States, or knowingly making, using, or causing to be made or used, a false record or statement to get a false or fraudulent claim allowed or paid by the Government, and for conspiring to defraud the Government by getting a false or fraudulent claim allowed or paid, in violation of the False Claims Act, 31 U.S.C. §§ 3729-32."

The False Claims Act has been around since 1983, and was designed to allow a citizen to sue a U.S. government contractor for making false or fraudulent claims about the quality of the goods or services the contractor has agreed to provide. It allows the citizen to sue "on behalf of" the government (thus the Latin *qui tam*). The person suing can recover personally up to 25% of whatever damages are eventually assessed. The bulk of the damages go to reimburse the U.S. government.

Goodearl and (now) Aldred filed the civil *qui tam* suit because they felt the Inspector General's office was too slow in its own investigation. But in 1991, the Department of Defense charged Hughes in criminal court with willfully conspiring to defraud the Government. The charges were defrauding the DoD by "knowingly and deliberately producing hybrids that had not been tested in the manner specified by contract and the pertinent military specifications...and to make false statements, writings and representations on documents in a matter within the jurisdiction of the DoD."

The civil lawsuit was put on hold while the criminal accusations were settled. The criminal trial lasted a month. Hughes' lawyers constantly battered at the credibility of the two main witnesses, Goodearl and Aldred. They claimed that the only fraud that had been committed was the AMRAAM incident, and that all the other incidents were distorted by Goodearl and Aldred, and the Department of Defense. It was a difficult and ugly proceeding, especially for Goodearl and Aldred.

## **Outcomes**

On June 15<sup>th</sup>, 1992, Hughes was found guilty of conspiring to defraud the government. Donald LaRue, who had also been charged, was found not guilty. Comments by the jury suggest that they felt LaRue had himself been pressured into his actions, and that the company was to blame.

After being found guilty in criminal court, and after an unsuccessful attempt to appeal, Hughes began to negotiate in the civil suit. They agreed to a settlement in 1996. Hughes was assessed 4.05 million for their fraud. Goodearl and Aldred were awarded \$891,000 of this amount (22%). Hughes also had to pay the legal fees for Goodearl and Aldred (\$450,000).

Both Goodearl and Aldred were profoundly affected by their decision to blow the whistle, and by Hughes retaliation. Goodearl and her husband had to file for bankruptcy, and Aldred was on welfare for a year before she could find another job. Goodearl's marriage eventually broke up. Still, both felt they had been correct in blowing the whistle. After the final settlement, Aldred said, "Despite the toll it has taken, it was the right thing to do."

		Ethical Issues						
		Quality of Life	Use of Power	Safety	Property Rights	Privacy	Equity and Access	Honesty and Deception
Levels of Social Analysis	Individual							
	Group							
	National							
	Global							

### **Use of Power**

Whistleblowing is usually analyzed in terms of balancing the duties the whistleblower has to the employer and to the public. But this approach isolates the whistleblower as the sole responsible actor. In actuality, whistleblowing takes place in a system. The employer, the employee, and outside agencies are played off against each other. Those who attempt to do the directing include, of course, the whistleblower, but also the employer, who will use both their own power and recruit that of others to strengthen their own position.

To help frame the use of power in this case, it will be useful to distinguish various sources of power. Raven (1993) lists seven different types of power, each with some overlap into others. This classification helps us to recognize both the sources of power that actors in the case have and the fact that power can be exercised even by the party that seems objectively "weak" in a situation.

The seven different types of power that Raven (1993) outlines are:

1. *Reward*. The ability to give or to withhold rewards from someone. Goodearl's placement in the testing operation was a reward to her for her earlier good performance.
2. *Coercive*. The ability to compel action under threat of punishment. Certainly Hughes used its ability to punish to attempt to influence Goodearl and Ibarra. Goodearl and Ibarra blew the whistle to recruit an outside agent (the Inspector General of the Department of Defense) who had the power to compel action by Hughes.
3. *Referent*. Power based on people desire to emulate an admired person. Classic examples are religious leaders, but in Hughes, both Donald LaRue and Frank Saia had some referent power because of their long service at Hughes. They were respected employees.
4. *Legitimate*. Socially sanctioned power, usually held because the person occupies a role that has responsibilities and associated power. Because of its position as the employer,

Hughes had power to organize its affairs and to structure the jobs of its employees. The Inspector General had legitimate power because of its establishment by congress.

5. *Expert*. Power based on expertise. Because of both his experience and his education, Frank Saia had expert power. "The girls" doing the testing on the shop floor knew only their own station's routine, and so had little expert power.
6. *Informational*. Power based on information to which one has access. One can have informational power without being recognized as an expert in an area. For instance, some of "the girls" had information about how fraud was committed in the testing process (because they witnessed it, and had enough knowledge about the process to recognize it). But in its criminal trial, Hughes attempted to defend LaRue's actions based on his expert knowledge about what chips needed what sort of testing.
7. *Connectional*. Power based on who one knows. Goodearl and Ibarra were exercising connectional power when they called on the Inspector General to investigate Hughes.

People usually think of power only in the first two senses (reward and coerce). But all the different types of power can be seen operating in the Hughes case, and for each use of power we can ask the question "is this use of power ethical?"

To ask this question appropriately, we need criteria and procedure. The [computingcases.org](http://computingcases.org) approach is to use relatively straightforward tests such as:

- *Harm/Beneficence*: Does it do less harm or more good than the alternatives?
- *Publicity*: Would I want this choice published in the newspaper?
- *Reversibility*: Would I think was a good choice if I were among those affected by it?
- *Code of Ethics*: How does this choice stand in relation to the professional ethical standards of my profession?
- *Feasibility*: Can this solution be implemented given time, technical, economic, legal, and social considerations?

For detailed guidance in using each of these tests, see the General Tools discussion on [Ethical Analysis in Cases](#). Each test can help understand a different facet of the ethical issues in a case, and the systematic use of the tests requires some knowledge of the structure and philosophy behind each test. In this presentation, we will refer to the tests assuming the presentation of them in the document referred to above.

To do each of these tests on each of the uses of power for each actor in this case would be prohibitive here. But we will selectively use some of the tests from the perspective of each major actor in the case, and on several levels of social analysis (individual, group, national).

## Individual level

*Donald LaRue & Frank Saia.* LaRue and Saia were the first two links in the organizational hierarchy above "the girls" on the testing floor. They thus had legitimate power to structure the work of the environmental testing unit to best serve the purposes of the parent organization, Hughes. However, there were limits on their legitimate power that were imposed by employment law (e.g. non-discrimination) and by the government contract (e.g. what tests had to be performed, how the documentation had to be structured). This makes it clear that LaRue & Saia's legitimate power was really shared with other who also had legitimate claims. Did LaRue and Saia use their legitimate power ethically? In many ways, yes. They were given the power by Hughes in order to serve Hughes' end of making quality products while making a profit. Saia, for instance, changed the organization of the testing line to do the "gross leak" test early in the process, so that time would not be wasted on testing leakers that were easily detectable. LaRue carefully supervised "the girls" to make sure production quality and speed was maintained.

So where did they go wrong? The contract specified many things that needed to be done, and sometimes in what order. But it did not specify, for instance, that the "gross leak" needed to be done at a specific time, and Saia was free to move it around. But when they began omitting tests or falsifying tests, these actions clearly crossed the line. They did not simply go beyond the legitimate power. They actually disregarded the legitimate power (in their obligations in the contract) that others had over them. This clearly fails the *reversibility* test, since we want others to keep their promises to us, and so we should keep the promises we make to others. It also alerts us to the fact that we are dealing with obligations to respect the relationships and roles we have arranged with each other. So, they were overstepping the bounds of their own legitimate power and doing things that did not respect the legitimate demands of others. They were doing things (changing procedures) that looked a lot like things they had legitimate power to do, but they were imbedded in a web of obligations, and got the balance among them wrong.

In addition to violating their obligations in the contract, they also may well have been putting lives in jeopardy because they were allowing inadequately tested chips to be shipped out to be used in military hardware. This clearly fails the harm/beneficence test. They would have been wrong to skip the tests under most any circumstances, but especially wrong when the skipping could result in unsafe systems and potential loss of life. Goodearl and Ibarra cite their concern about safety as the primary reason for their whistleblowing. There were less upset because LaRue and Saia were *merely* bending the rules, but were driven to action by the safety implications of those departures from the rules.

LaRue and Saia also used the coercive power that came with their position to punish Goodearl because she was not being what they called a "team player." Surely this fails the reversibility test, and also the publicity and harm/beneficence tests. It is important to recognize why it fails these tests. Every organization wants employees to be team players. This expectation is reasonable, and it may be necessary to sanction or even dismiss those who do not meet it. But the code of ethics test helps us to see how the balance was missed. The ACM Code of Ethics. Section three of that code specifies organizational leadership imperatives: the responsibilities of those who are leaders in organizations that deal with computing. Item 3.1 reads:

ACM member and an organizational leader, I will articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities.

So, one of the responsibilities of an organizational leader, according to the code, is to make clear to employees their social responsibilities and to support employees in accepting those responsibilities. But LaRue and Saia were only emphasizing loyalty to the organization, to the team. And not only were they not "encourag[ing] full acceptance of [social] responsibilities" they were actively punishing Goodearl and Ibarra for attempting to fulfill their social responsibilities.

Finally, LaRue and Saia used their expert power to claim a right to selectively test chips. On the surface, this seems reasonable and perhaps even laudable. If, in fact, their use of their position as experts on testing to make sure the chips were make the line more efficient or even to simply make more money for Hughes while maintaining the required quality, all would be well. But in fact, they misused their expert power either to claim (falsely) that no harm was being done or to minimize the harm being done by the fraud they were committing. In either case, this clearly fails the publicity test. The publicity test focuses on personal character (what would publicity reveal about the kind of person you were?) and were are thereby alerted to the possibility that their misuse of expert power is wrong because it highlights the lack or a virtue (honesty) or the presence of a vice (greed, perhaps, or cowardice). Since honesty and deception is one of the main ImpactCS categories, we will deal in more detail with this angle of LaRue and Saia's unethical behavior in that section.

*Goodearl and Ibarra.* In her initial attempts to reform the testing procedure from the inside, Goodearl attempted to use her informational/expert power to convince the organization that it needed to follow the testing protocol. She was stymied in these attempts and punished for her efforts. If we look at the IEEE guidelines for ethical dissent, we can see that Goodearl blundered ahead through the steps of dissent without taking time to make her case. Thus, though morally right, her tactics were flawed. The IEEE guidelines suggest that a careful case be put together, based on the best information, that helps to maximize the goals of both the dissenter and of the organization. Goodearl spent most of her time simply telling other that they had to follow the rules. She was correct, but tactless.

Here the IEEE guidelines and the ethical tests we propose converge. The feasibility test (the last item in our list of ethics tests) ask questions about how best to proceed in attaining the ethically desired goal. Can it be attained at all? If a thing cannot be done, one is usually not help responsible for not achieving it. In the criminal trial, Hughes was found guilty of fraud, but LaRue was exonerated because the jury felt her was put in a position in which he had few options except to do the organization's bidding. One the other hand, one of the jobs of a thoughtful ethical dissenter is to form coalitions with others in the organization who can help to support the dissenting case.

Goodearl in fact attempted to do this by joining forces with Ibarra in quality control. Ibarra has expert power in the organization, and could help to strengthen her case. But although it appeard that Ibarra had power, the organizational reporting schemes required her to route all her complaint through Don LaRue, the very person who was committing the fraud. So, it appears that the organizational setup was one that gave the appearance of independent review, but actually gave no power to the independent reviewers.

For this reason, Goodearl and Ibarra both ended up using connectional power by establishing outside connections with the General Inspector's office. This outside agency had power that was independent of the immediate reporting chain in which Goodearl and Ibarra were stuck. It may have been possible for Goodearl and Ibarra to still stay inside the organization and find some ally outside their immediate reporting chain. In fact, Goodearl attempted to do so by speaking with the Personnel office. But again, the reports were quickly funneled back into the immediate reporting chain, this time to Frank Saia, LaRue's direct supervisor.

Still, it seems apparent that Goodearl (at least) and Ibarra (possibly) were less than strategic in their attempts to find an inside remedy the problems they saw. This is certainly excusable in that they were not professional computer scientists or engineers, and did not have the broad knowledge (or expert power) required to critique the system and play it against itself.

If we approach their decisions from the viewpoint of the ethics tests, we can see that they felt they were helping to reduce harm to military personnel and that this outweighed the harm they might do to themselves and their families or to the organization. They still claim that they would do the whistleblowing over again. But they did pay high personal price.

In terms of the reversibility test, were they treating their supervisors and Hughes with appropriate respect? Surely they were doing things that hurt Hughes and their supervisors, but they could be done in a way that respected their rights. In the criminal trial, it became clear that there were personal animosities between Goodearl and LaRue, and it seemed that they were asking "the girls" on the floor to pick sides in the ensuing fight. So, there is some evidence that Goodearl was not respectful of LaRue. But again, this may be excusable given the severe pressure she was under.

Certain Goodearl and Ibarra are celebrated as virtuous persons because of their whistleblowing, and this makes the publicity test easy to pass. An important point to remember here is that Goodearl does not need to be sainted, to be perfect in virtue, in order for us to say that she showed courage. In fact, in the criminal trial, it became clear that Goodearl had a variety of character flaws (e.g. bragging about untrue exploits, making immodest claims about personal achievement) and the defense for Hughes used these flaws to their advantage in attacking her credibility. But when we step back from the case it is easy to say that both she and Ibarra showed extraordinary perseverance and courage in pursuing their whistleblowing claim.

## Group Level

In thinking about the ethics of LaRue and Saia's actions we have already talked about Hughes legitimate power to set up a system that achieved their goals. There we mentioned that authoritarian atmosphere that Saia and LaRue maintained in the environmental testing unit. But the atmosphere was spread more widely throughout Hughes. When Goodearl attempted to report incidents to the Personnel office, her complaints were not taken seriously, but immediately funneled back to her superiors.

It seems, then, that although Hughes had legitimate power to structure its work environment so that it could achieve its corporate goals, it failed in its duty to "articulate social responsibilities of members of an organizational unit and encourage full acceptance of those responsibilities"

(ACM Ethics Code 3.1). This broader failing worked, in the end, against even Hughes' own goals, since they were found guilty of fraud in a federal criminal court.

We can begin to construct a case here for the ethical responsibilities of organizations to encourage ethical behavior in their employees. We can base this case on the various ethical tests we have been using, as long as we are willing to say that an organization can show virtues, weigh harms and benefits, and show respect.

### **National Level**

Congress certainly used legitimate power in its design of laws to encourage whistleblowing. The original law that supported Goodearl and Ibarra was passed during the civil war to encourage (and reward) those people who would sue, on the behalf of the government, perpetrators of fraud. These laws are under regular revision, and Congress sees the laws as supporting an environment in which employees are encouraged to think about the ethical issues associated with their behavior as agents of organizations.

The Inspector General's office is authorized to use coercive power (through lawsuits and criminal proceedings) to compel cooperation on the part of government contractors. In the Hughes case, most of us think this is a reasonable use of power. But if you go to the [Inspector General's reporting hotline web page](#) you will discover that the office has wide discretion about how much they will investigate any particular allegation. Feasibility is surely one of the issues here – the office can only investigate so many incidents at a time. But in addition there is an issue of when they have enough evidence to justify an investigation or a suit. In Goodearl and Ibarra's case, the two employees were encouraged to collect evidence that the fraud they alleged was actually being perpetrated. The point here is that even the investigative powers of a legitimate authority have limits. Describing those limits takes us outside the scope of this analysis, but is a useful analysis. In attempting this analysis, remember not to reduce the moral and ethical responsibilities of the Inspector General to the legal requirements.

### **Privacy**

A clear privacy issue in this case is the handling of the reporting of fraud in the Personnel office. Personal information that was given in confidence was transmitted to the complainer's immediate supervisor, resulting in retaliation for the complaint. This is a dramatic compromise of privacy. The ethical issues here are handled in more detail in the section on [power](#).

### **Equity & Access**

Why were the testers in the environmental testing area called "the girls"? This was a term of endearment and the testimony at the criminal trial bears this out. But in addition, it was also a term that emphasized their lack of power. Was Goodearl "one of the girls"? Apparently not. But she was definitely subordinate to LaRue, who often treated her complaints with the same

arrogance as those of "the girls." Goodearl's last supervisor was also female, but this female supervisor had learned the lesson that she must go along with the corporate culture in order to get along. Thus like in many organizations, the women who advance most quickly are those who reflect the male corporate values.

### ***Honesty & Deception***

When is it dishonest to skirt the rules? Before answering this "never" remember that unions have perfected the "work-to-rule" slowdown as a form of collective action against management. These work slowdowns are accomplished by simply adhering literally to every rule for repair, clean-up, paper filing, etc. that has been established. It does significantly gum up the works. So in fact, one has to skirt the rules to get an organization to function at all.

There are clear cases of fraud, like the one perpetrated by Hughes, and we can condemn these straightforwardly. But between outright fraud and a work-to-rule slowdown there is a gray area in which people of goodwill can disagree. Labeling some of the chips "hot parts" and expediting their testing, or even babysitting them through the process, seems to be a legitimate bending of the rules. For each of these, using the ethics tests we have presented here help in establishing the important issues. The tests do not always make the answer clear, but they help to make the questions more clear.

Part of Goodearl and Ibarra's dilemma was that if they became "team players" according to LaRue and Saia's rules, they would be participating in the fraud the Hughes was committing. The doctrine of *respondent superior* helps some in this case, in that it holds the employer responsible to the action of the agent when the agent is really acting on the behalf of the employer. This is, in part, the reasoning that the jury used in not convicting LaRue of fraud, but convicting Hughes. Still, this legal rule does not let the agent entirely off the hook in the legal system, not does it address the moral responsibility of the agent. Goodearl and Ibarra knew that people would be placed at risk if the chips were not properly tested, and they decided that this risk outweighed the interests of Hughes.