

ON THE JOB

I. Getting Acquainted

Carl Lawrence was somewhat nervous on his first day at work. Although a very good student, he had relatively little practical experience in engineering. Yet, here he was, supervisor of several acid and caustic distribution systems. Plant manager, Kevin Rourke, gave Carl a tour of the facilities and introduced him to the workers he would be supervising. Carl was pleasantly surprised when he was introduced to Rick Duffy. Rick and Carl's older brother were best friends in junior high school, and Carl had always liked Rick.

Rick moved away from Emerson City in the 10th grade, and the Lawrence family lost track of him. Rick told Carl that he went into the service right after high school. After that he returned to Emerson City to take a job at Emerson Chemical as a lead operator. Now married with two small children, Rick is anxious to move ahead. So, he is enrolled in night classes at the local university.

When Kevin Rourke finished showing Carl around the facilities, he asked Rick to show him how the distribution systems worked. As Carl and Rick moved from the acid to the caustic distribution system, Carl noted a striking difference. The acid distribution piping has spring loaded valves that close automatically when not in use. To pump acid into a remote receiving tank, a pump switch must be activated at the remote location. The pump switch has to be held on by the operator while the tank is filling. The penalty for propping the switch on by other means is immediate dismissal. In contrast, no similar precautions are taken with the caustic system.

One of the two caustic tanks in Carl's area is equipped with a high-level alarm. The other, located in a less used area of the building, is not. Both tanks have vents piped to trench drains in the floor that are connected to the publicly owned wastewater treatment works (WTW). Because of the many low volume caustic use points throughout the area, the distribution system is kept pressurized by an air-operated diaphragm pump. So, if there is no caustic demand, the pump expends no energy. But it immediately acts to restore the line pressure if any valve is opened or if there is a leak in any of the pipes.

Carl asks Rick why the caustic system is so different. Rick shrugs and says, "I don't really know. It's been this way at least as long as I've been here. I suppose it's because the acid distribution system is used so much more." Carl then asks if the lead operators have written procedures for filling the caustic tanks. Rick says he's never seen any--nor has there been any review of the practice during the four years he has been an operator. "Are you satisfied with this setup?" Carl asks. "Well, I don't have any problems with it. Anyway, that's somebody else's concern, not mine. I suppose they don't want to put out the money to change it," Rick replies. "Don't fix the wheel if it's not broken seems to be their attitude."

Should Carl talk with Kevin Rourke about the distribution systems, or should he simply accept things as they are?

II. A Problem

[Several months later.] Carl Lawrence is alarmed by Kevin Rourke's urgent, early afternoon message: "All supervisors immediately check for open caustic valves. Supply tank is empty. Pump still running--either an open valve or a leak. Emergency order for caustic supply has been made." Carl immediately tells his lead operators to make a check. They report that everything is in order. However, by mid-afternoon it is evident that the problem is still unsolved. The supply tank is steadily emptying even though apparently all the valves are closed and no leak

has been discovered. At 4:00pm a lead operator who has just arrived for the afternoon shift notices an open valve in a seldom used area of the facility. Carl had forgotten that no one was working on that side of the building during the early afternoon. So, the seldom used valve wasn't checked. Now, however, Carl remembers that Rick Duffy was assigned that area during the previous shift.

The valve is immediately shut off. Then Carl phones Rick: "Rick, you left the C-2 valve open; and we've got a real problem on our hands. We've lost a lot of caustic down the drain. What time was it when you opened the valve?" Rick answers, "Carl, I don't remember. I've been real tired all day. Pulled an all-nighter getting ready for my exam tonight, and I was just wiped out when I went to work. I think I turned it on near the end of my shift, but I just can't be sure. I can't believe I forgot to turn it off!" Rick pauses and takes a deep breath, "Man, I can't afford trouble right now. Jan's pregnant again, and I've got another semester to go."

Now that Carl has located the problem, what should he say to his plant manager, Kevin Rourke? Should he acknowledge responsibility for failing to have C-2 checked earlier? Should he identify Rick as the one who left the valve open?

III. Taking Action

Kevin Rourke is relieved to learn that the problem is an open valve rather than a leak. No repairs would be required. However, another decision is necessary. Since it is not known how long the valve was open, there is some uncertainty about how much caustic waste has been released and how much, if any, has reached the publicly owned wastewater treatment works (WTW). It is estimated that it takes 6 hours for waste from Emerson to arrive at WTW. If Rick turned on the valve shortly before he left work, there would still be time to arrange for a supply of acid to be delivered to WTW to counter the higher pH count that the caustic waste would cause. Even if he turned it on earlier, sending a supply of acid to WTW would help control the harm.

Kevin knew that the pH level at WTW had been on the high side of its normal range before the pH meter that monitors the pH of waste arriving at WTW went out of service. He also knew that the meter would be still be out of service until late evening. So, even if the caustic waste were to raise the pH to an unacceptable level, it would be difficult, if not impossible, to trace the problem to its source.

What should Kevin do? If he notifies the proper outside authorities, how candid should he be in estimating how much caustic waste has been released?

IV. Kevin Rourke's Response

Kevin Rourke notifies the local fire station, which then alerts WTW. Kevin also immediately arranges for a large supply of drums of hydrochloric acid to be taken to WTW in case it is needed. Although the entire incident is quite costly, Kevin is convinced he has acted correctly: "If I had done nothing, it's possible nothing terrible would have resulted. But it would have been a very risky thing. If the caustic overflow had killed the micro-organisms that digest the sewage, WTW would have had to report the out-of-compliance discharge to the state environmental agency. If it ever got out that we were responsible--and that we tried to cover it up--we would have really paid through the nose; and I'd probably end up losing my job. Our public reputation would really suffer, too."

Total costs to Emerson: Replacement costs for an estimated several hundred gallons of wasted caustic; 30 drums of hydrochloric acid to be used if needed; \$60,000 to modify the caustic distribution system.

Evaluate Kevin Rourke's actions and supporting rationale from the standpoint of a) WTW; b) Emerson management; c) Emerson stockholders; d) other industries in the area that use WTW; e) local citizens. Do you think Kevin Rourke did the right thing?

V. Rick Duffy

Rick Duffy clearly was negligent. What should Carl Lawrence do about it? If propping open a pump switch of an acid tank warrants immediate termination, should Carl fire Rick for leaving open the caustic valve? To what extent, if any, should Carl be influenced by his friendship with Rick? By his knowledge that Rick needs to keep his job?

VI. Carl Lawrence

Although he realizes Carl Lawrence was not responsible for leaving the valve open, Kevin Rourke is upset that it took Carl's unit so long to discover the problem. Why, he wonders, didn't anyone check C-2 in this emergency situation? He also wonders what he should say to Carl--and whether he should take any action against him. Discuss.

VII. Kevin Rourke Again

Kevin Rourke decides he should have a serious talk with Carl Lawrence. He expresses his disappointment at the quality of Carl's initial investigation: "You have to tighten up your unit so that this kind of thing never happens again. You can start by giving whoever left the valve open his walking papers." Carl is relieved that Kevin apparently is not taking any action against him. But he is unhappy at the idea of firing Rick. What should Carl do? Should he cover for Rick and tell Kevin he doesn't know who left it open?

VIII. Rick Duffy Again

The next morning Carl Lawrence is mulling over what he is going to say to Rick Duffy when he hears a knock on his door. He is surprised to see Rick, and he is even more surprised at what Rick says: "I know I really put you in a tough spot. I'm really sorry I let you down. I want you to know that I quit this morning, so you don't have to fire me. I've already applied for another job. Look, Carl, I know I shouldn't be asking you for any favors, but I need a couple of references. Can I count on you?"

What should Carl say to Rick? What should he do? If he writes a letter of recommendation, what should he say about Rick's work performance?

IX. A Phone Call

Carl was surprised to receive a phone call about Rick Duffy just two weeks after the accident. "We've received a letter of recommendation from you concerning Mr. Richard Duffy," said the voice on the other end. "He's applied for a job in one of our safety areas. He's one of the finalists for the job. Your letter says he was a good lead operator, a reliable worker, easy to get along with, and so on--no negatives at all. I'm just calling to see if there's anything you might want to add that would help us make our final decision." What should Carl say?

X. Another Company

Imagine a similar accident occurring on the same day as Emerson's at another company in the area. Although

there is enough spill to exceed safe limits at WTW, by the time the problem is discovered and corrected at Nurrevo Ltd., Emerson has already rectified the problem at WTW. Since Kevin Rourke didn't know precisely how much caustic waste Emerson spilled, he had no way of knowing that he was cleaning up Nurrevo's spill as well. Should Nurrevo inform WTW of its accident and offer to share costs with Emerson? Discuss.

XI. Andrea Smith

Andrea Smith is Kevin Rourke's counterpart at Nurrevo. She is having a meeting with her immediate superior when Fred Barnes brings her the bad news. She immediately concludes that she will have to report the problem to WTW. But Andrea's superior tells her not to act too hastily: "Let's make sure we have the facts straight first. Go back to your unit and see what else you can find out about this. Meanwhile I'll make some inquiries." Fifteen minutes later Andrea discovers the problem is serious enough that she is convinced she should contact WTW. However, at that moment her superior steps into her office and says, "It's okay, Andrea. You don't have to do anything--it's all taken care off." Later she learns how it was "taken care off." Somehow her superior learned of the Emerson Chemical spill and that Kevin Rourke's actions actually solved both problems at once. So, he decided Nurrevo would simply keep its problem quiet.

Andrea Smith likes her job very much. She has worked hard to get there, and she would like to advance within the company. But now her superior has posed a problem. She definitely disapproves of his cover-up. She wonders how far up the organizational ladder she would have to go to find someone who would agree with her. Would anyone? So she wonders what she should do.

COMMENTARIES

Donald Chivens

I. Getting Acquainted

After examining the facilities with lead operator Rick, Carl astutely noticed the difference between the safety features of the acid and caustic distribution systems. Rick was unable to explain the reason for the differences, which is not surprising since he was an operator, not an engineer or manager. Since Carl now had responsibility for these systems and since he had recognized and questioned the safeguard differences, Carl should have pursued this question with a superior, either plant manager Kevin Rourke or an intermediate manager or plant engineer.

II. A Problem

Carl has no alternative to acknowledging responsibility for failing to have valve C-2 checked earlier, and he should identify Rick as the one who left the valve open. Rick's honesty should be noted here.

III. Taking Action

Kevin Rourke and Emerson have a responsibility to minimize the damage caused by their accident, regardless of the inability of the WTW to monitor or trace the spill. Damage control would be most effective if WTW is given all known information and uncertainties. It is interesting to note that bureaucrats and watchdog environmental groups are sometimes so anxious to "nail polluters" that honesty could be quite costly--thus the temptation to be less than candid when traceability is unlikely.

IV. Kevin Rourke's Response

Kevin Rourke certainly responded properly, in my opinion, but his rationale is not admirable. His honest and prompt response was based upon potentially much larger costs associated with an unsuccessful cover-up, rather than holding "paramount the safety, health and welfare of the public" (NSPE Code of Ethics). Since both costs and the public welfare were optimized by Kevin's decisions in this instance, Emerson management and stockholders should view his actions positively. One would hope that Kevin, the management, and the stockholders would still view these actions as correct if the threat of punishment for dishonesty were absent.

V. Rick Duffy

Rick Duffy was negligent, but there is a distinct difference between making an error and consciously violating well-known rules such as propping open a pump switch. Firing is not warranted in my opinion in this case. Unless there was a prior history of errors made by Rick, a formal reprimand would be appropriate.

VI. Carl Lawrence

Carl was not necessarily negligent, but he did not efficiently determine the problem, and he could have brought the potential for this problem to Kevin's attention when he first came to work for Emerson. Both of these factors reflect upon Carl's job performance, but I would not view them as grounds for taking actions against him. At a scheduled performance review, both of the above factors should be noted and discussed with Carl. There is always a gray area between ordinary competence and negligence, while outstanding job performance might well have gone unrecognized if it had resulted in no spills occurring.

VII. Kevin Rourke again

Kevin should indeed have a serious talk with Carl Lawrence. His statement, "You have to tighten up your unit so that this kind of thing never happens again," is appropriate. There are many possibilities here for discussion regarding both procedural changes and hardware safeguards. The subsequent statement, "You can start by giving whoever left the valve open his walking papers," does nothing to address the basic problem. Carl should not cover up for Rick, but he should probably share in the blame. Since the potentially dangerous situation pre-dated Carl's employment, Kevin Rourke (and others) should also share in the blame.

It could be appropriate to fire an employee for a conscious violation of procedures, but to fire an employee for one mistake is, in my opinion, a poor reaction, regardless of the severity of the error. If Rick's years of service have been reliable and error free, then given a second chance, he is probably the least likely person to repeat such an error. Kevin, Carl, Rick (and probably others involved) could together create a plan to avoid the possibility of a repeat spill by considering such items as:

1. Create procedural changes whereby all critical valves were checked by more than one operator.
2. Consider hardware changes such as had been implemented on the most heavily used tanks.
3. Consider downstream sensor systems to give early warning of failure.

VIII. Rick Duffy again

Rick should not have had to quit, and he could even have been encouraged to stay. Assuming that he does quit,

his work record appears to be quite good with the exception of this one error. A carefully worded recommendation should reflect this record and need not reference the details of any particular incident. Carl could certainly agree to be a reference, and he could give an honest (and quite good) recommendation for Rick. This following type of statement might be appropriate:

Rick's generally outstanding performance as lead operator suffered on isolated occasions under pressures from school and family responsibilities.

IX. A Phone Call

Carl's recommendation letter should probably have made reference to good but not flawless service, as mentioned above. At the telephone call, he likewise should give an honest overall impression of Rick's reliability. It is not necessary, in my opinion, to give details of Rick's error to someone outside of Emerson. Note that while Rick erroneously left open a valve, the fault for the magnitude of the resulting damage should be shared by others.

X. Another Company

Ethically, Nurrevo should inform WTW of its accident and offer to share the clean-up costs. It seems unlikely that these two spills would be so identical as to require precisely the same cleaning procedure.

XI. Andrea Smith

Andrea's problem is that faced by all "whistle-blowers." She is definitely endangering her career by circumventing her boss. Without knowing the personalities involved and the organizational structure, it is difficult to formulate her best response.

Michael Davis

This is a complicated case. But the underlying theme seems to be what to do with potentially useful information. So, it is worth pointing out right away that most large organizations under-use information, especially information generated near the "bottom." They don't do this intentionally but by creating an atmosphere in which information does not move to where it is needed. Employees see problems but don't report them because (in Rick Duffy's words) "it's somebody else's concern" or because they suppose (again in Duffy's words) "[the company doesn't] want to put out the money to change it."

Most companies should do more to ensure that the higher-ups get the information available to those at the bottom. The Japanese are better at that than we are. Our larger companies are only now beginning to adopt such Japanese practices as "quality circles." But even the Japanese could do more.

New to the job, Carl Lawrence, engineer, is an important resource. He is looking at the plant with new eyes. He might well pick up things invisible to those used to things as they are. He won't be able to do that for long. Kevin Rourke, the plant manager, should ask him for suggestions. But, even if Rourke does not, Lawrence should tell Rourke what is bothering him about the caustic distribution system. He should, of course, do this with due modesty. He has a lot to learn. There might be a good reason for the difference between the acid distribution system and the caustic distribution system. Still, part of being a good engineer is seeing ways to improve existing systems. Lawrence has seen something, or at least thinks he has. He owes it to his employer to pass that information along.

The problem Lawrence faces several months later again concerns information. He forgot that no one was working during the early afternoon on the side of the building where the C-2 valve was. Whether or not he was to blame for forgetting that, the fact that he forgot is important. Perhaps his forgetting shows a need for an automatic shut-off valve or, at least, for a written procedure, including a checklist, for handling emergencies like the one that just occurred. Everyone makes mistakes; the smart ones learn from them. The company will learn less from this one if Lawrence does not report what he did wrong. That is why, according to NSPE Code III.1, engineers are supposed to "admit and accept their own errors when proven wrong and refrain from distorting or altering the facts in an attempt to justify their decision."

Lawrence should be slower about identifying Duffy as responsible for leaving the valve open. A manager who blames his subordinates is like the carpenter who blames his tools. Rourke will press Lawrence if he thinks who left the valve open is important. But, even if Rourke does not press him, Lawrence will have to decide whether Duffy's part was important. If Duffy's conduct was extraordinary, something unlikely ever to happen again, there is no need to consider changing the physical plant. Duffy was the problem. If, however, Duffy's conduct was not all that unusual, this was an accident waiting to happen. The plant, or its procedures, is the problem.

If Duffy's conduct was important, Lawrence probably should tell Rourke the whole story while withholding Duffy's name. Rourke can demand Duffy's name if he wants it. In the meantime, the etiquette of protecting subordinates will have been observed. If, however, Duffy's part was incidental, Lawrence should simply say so: "It could have been anyone. I'd just as soon not say who it was."

Of course, Lawrence's connection with Duffy makes the decision harder. Duffy is not just another employee. He is more like a friend. So, Lawrence has a conflict of interest. His judgment may favor Duffy in a way it would not favor just anyone he supervises. He should tell Rourke that too. Hearing that, Rourke may not be so inclined to rely on Lawrence's judgment concerning Duffy. His not relying on Lawrence's judgment does not necessarily mean Rourke will fire Duffy. We have no reason to suppose that Rourke's heart is made of stone. But should he decide to fire Duffy, knowing Duffy and Lawrence are close should make Rourke less inclined to assign Lawrence the painful job of delivering the bad news.

Rourke's doubts about reporting the caustic spill differs little from Lawrence's doubts about reporting what he knows to Rourke. True, the information Rourke has is needed by the water treatment works rather than by someone inside the company. The organization having trouble using the information available to some of its members is society as a whole. Where does Rourke's ultimate loyalty lie? For an engineer, there is only one answer, with the public. An engineer is, as such, committed to "hold paramount the safety, health, and welfare of the public in performance of his professional duties." (NSPE Code II.1) Rourke, an engineer acting in his professional capacity, can prevent serious harm to a public facility, harm for which the plant he runs would be responsible. He certainly should notify the waste treatment works about the caustic waste headed its way, and he should be as candid as necessary to prevent the harm that would otherwise occur.

Protecting the public interest in these circumstances will probably serve Rourke's employer as well. The public tends to make life miserable for businesses that don't pay enough attention to the public interest. But engineers do not hold the public safety, health, and welfare paramount for that reason (or, at least, for that reason alone). Individuals organize into professions in part to protect themselves from being pressured into doing what they do not want to do. There is strength in a common code of conduct. Engineers, whose knowledge gives them the power to do the public great harm, have agreed to make the public interest paramount to assure that they will not be forced to harm the public. Each engineer can say, "If you didn't want the problem handled in this way, why

did you want an engineer for the job?"

What should Lawrence do when someone considering Duffy for a job calls, quotes Lawrence's letter of reference, and asks whether he has omitted any negatives? Here again one person has information that would be useful to another. Here, however, we also have concerns about deception and about confidentiality, both Duffy's and the company's. What should Lawrence say?

I don't think he can honestly say there are no negatives. Causing a significant chemical spill (with thousands of dollars in losses) is a negative in anyone's book. That negative is, however, not necessarily decisive, and the full story is not that damaging to Duffy. He clearly understood he had done wrong. He did not lie about it. He was repentant. He might now be a safer worker than someone who had never seen how much harm his carelessness can do. Why not tell Duffy's prospective employer the whole story? The story will do Emerson Chemical no harm (assuming it behaved properly). Duffy might still get the job. And, if he does, he will not get it under false pretenses.

Unfortunately, Lawrence probably cannot tell the full story without getting Emerson Chemical's permission. Insofar as Lawrence will be telling more than the media have already reported, he will be revealing confidential information. An engineer should not "disclose confidential information concerning the business affairs or technical processes of any present or former client or employer without his consent." (NSPE Code III.4) By preserving the confidences of their employers, engineers make it easier for their employers to share information with them and so, easier for them to do a good job. Lawrence should probably tell his caller something like this: "I can't talk now. I'll call you back in an hour or so." He can then get clearance from whoever has authority to give it.

Telling Duffy's potential employer a "white lie" is not a justified (or even excusable) alternative to this cumbersome process. Duffy has no right to expect Lawrence to lie for him. And, under the circumstances, it is hard to see how such a lie could be morally justified or excused. Such a lie would therefore be a violation of an engineer's professional obligations as well. Being morally inexcusable, such a lie would amount to "conduct...likely to discredit the profession" (NSPE Code III.3) and fall well short of "the highest standards of integrity" (NSPE Code III.1).

Nurrevo has no more right to expect Andrea Smith to lie for it than Duffy had to expect Lawrence to lie for him. But that is not what Nurrevo is asking of Smith. Once Nurrevo learned that Rourke's action would take care of both spills, it also knew that the public interest was no longer at stake. The only question was who would pay for the disaster for which Nurrevo was responsible as Emerson Chemical. There is, strictly speaking, no "cover-up". Nurrevo has not denied its responsibility. It has said nothing. Nurrevo is asking Smith to keep this dirty secret. Smith owes her employer that much. (NSPE Code III.4)

That is not to say all is well at Nurrevo. There is a good chance that Fred Barnes did not tell his superiors about the problem, that Nurrevo is developing a collection of dirty secrets, and that those secrets will soon be numerous enough to make everyone fearful of open communication. Nurrevo will not be a pleasant place to work. If I were Smith, I would start looking for another job.

Joseph Ellin

I

Here we have an engineer who, on his first day on the job, discovers a waste disposal system which he doubts is

up to par. Should he point this out to someone? Yes; if Carl has concerns about the system, why shouldn't he express these concerns to the plant manager? His buddy Rick has a 'don't rock the boat' attitude, but why assume Rick adequately represents the position of management? As a new employee, perhaps Carl in a position to see things or make suggestions which old-timers wouldn't notice, and which management might be glad to correct. Rick thinks management doesn't want to spend the money to make changes in the system, but whether they do or not is not Carl's decision. His professional responsibility would seem to be to make recommendations where appropriate. If management doesn't choose to follow the recommendations, Carl can consider what to do next; if Rick's view turns out to be correct and management doesn't even want to hear about the problems, then Carl has some fundamental reevaluation of his own place in such a company.

II

Now there is an unacceptable discharge caused in part by employee negligence. But Carl is also responsible because he forgot to check one valve. Carl has little choice but to acknowledge responsibility for failing to check C-2. Anything else would be evasion, dishonest, and avoidance of responsibility. However once he accepts responsibility there's no need to identify the culprit unless he's asked, but if he is asked, he has no choice but to do so. It's his job to know who's doing what, and he's the agent of management in evaluating his subordinates.

Carl is obviously at fault for not remembering the open valve, but there's a question why Carl wasn't provided with a checklist of cut-off valves to be referred to in such an emergency. Simply telling everybody to check the valves doesn't seem like an adequate safety procedure. Carl is a new employee so perhaps he can't really be expected to implement better procedures than are provided.

III

Kevin needs to talk to the WTW people and explain the situation, which is that caustic waste is moving towards the waste treatment works. Kevin estimates a range of values for the quantity of caustic waste likely to reach WTW, and offers to send however much acid is necessary, according to the estimation of the WTW people. (They are in a better position to know their current pH level than he is). His obligation is to avoid down-stream damage or danger. Evidently he is tempted to try to avoid the issue entirely on the basis that WTW wouldn't be able to trace the waste to its source at Emerson. Presumably this means he would ignore the spill and let the excess waste reach WTW, where it would do whatever damage such stuff does. This 'the hell with you' attitude is about as unethical as you can get. Being less than candid, as also suggested by the question, is not much better, since it implies doing less than necessary to fix the problem or limit the damage.

IV

Kevin acts responsibly and notifies the authorities: it's not clear why there should be disagreement about this from any differing points of view. His rationale is a self-interested one, which ought to convince management and stock-holders. The cost to Emerson is not given (\$60,000 +) but it should not seem excessive, even from a self-interested point of view, considering the risks involved in trying to cover-up. Kevin Rourke indicates he's worried about losing his job, which should reassure Emerson management and stockholders that company incentives work to encourage appropriate behavior. Although Kevin does not mention any obligation Emerson might have to correct its errors before actually damage or harm is caused, this additional rationale ought to please WTW and local citizens. As for other industries, they should be pleased that Kevin has given them a model of responsible crisis management.

V

Rick's excuses for his mistake are rather pitiful, and he has to expect discipline. One hopes there are company policies and procedures regarding employee gross negligence. Unfortunately it's up to Carl to impose the necessary discipline. Clearly personal considerations have to be left out of it; he can't treat one employee more leniently than another because of a past relationship. If Carl is inclined to favor Rick, he might try to pass the buck to someone else who's more impartial, but this attempt at a cop-out probably won't raise his stock in the company. He's best off steeling himself to the task. From Rick's point of view, it might actually be fairer if Carl does excuse himself, since Carl might be overly harsh in order to overcome the possibility of being too lenient. As for Rick's personal situation, this might give him a case for easy treatment based on mercy or personal hardship, so if he wants to make a plea for mercy, he should have that right, but the proper place to make it would be not at Carl's level, where even-handed discipline should be administered, but at a higher level in the company somewhere. Of course this assumes the company has proper policies in place for giving a fair hearing to accused employees, and it should be stressed how important it is to have such policies, since situations such as the Rick error are inevitably going to arise. It also might be noted that it is Rick who has the bad attitude about 'don't rock the boat.' He attributes this to the company, but there's nothing in the case to substantiate that, and one point against it: the fact that Kevin acted responsibly in part due to fear for his job were he to cover-up and fail. Perhaps Rick's failure at the switch that day is in part due to his own attitude of indifference to job performance. And perhaps also he has too many things on his mind at this point in his life to act as a responsible employee.

VI

Carl is at fault for forgetting about valve C-2, and should be disciplined also, though there's not enough information in the case to know how serious was his failing to remember that no one was at the "seldom used area." Evidently three hours or so passed before the open valve was finally noticed; what was Carl doing during that time? Shouldn't he have remembered about the "seldom used area" sooner than that? Shouldn't he have called all the lead operators together to brain-storm the problem, and if so wouldn't one of them have remembered the "seldom used area"? On the other hand, Carl is a new employee, who has evidently not been given any training in how to handle a situation like this, so there's a lot of mitigation. Kevin ought to be able to take all these factors into account if he is to arrive at a just solution regarding Carl.

VII

Carl gets off easy when Kevin decides not to take any action against him and he should be relieved. In my view Kevin is too kind; he ought to tell Carl that his performance was less than sterling and that he's got to do better. Carl in his turn should complain to Kevin about the lack of training and of standard procedures for dealing with crises. There's enough responsibility here so that no one needs to feel that his performance was superior.

At the same time, Kevin's way of talking to Carl is a bit odd. His discipline against Carl seems to be to require him to fire Rick. Perhaps Kevin has read Carl correctly and understands that he is not about to let this mistake occur again, and that tightening up his unit is exactly what he intends to do. If so, Kevin is probably correct in not taking further action against Carl. At the same time, it may seem unfair to fire Rick and let Carl off scott free. But there is a difference: Rick had an ordinary responsibility which was easy to perform, but which he forgot due to other things on his mind. Carl on the other hand was faced with an unanticipated crisis for which he had neither experience nor training. Carl's failure was not improvising a solution under pressure, whereas Rick failed to perform a routine task in the course of ordinary business. So their situations are not at all comparable.

If Carl wants to protect Rick, he better not try it by lying. Kevin is going to tell him that it's his responsibility to find out who left the valve open; this can't be too difficult, and he ought to have known by now anyway. If Carl thinks friendship requires him to protect Rick, he can try and defend Rick to Kevin. If Rick has a good case, Kevin may respond favorably: there's nothing to indicate that Kevin is especially tough-nosed or insensitive (and in fact given his responsible action in notifying WTW, there's reason to believe he is ethically sensitive). Perhaps Kevin shouldn't order Rick fired without knowing all the facts, which Carl can put before him. Of course there's a risk that Kevin doesn't want to hear any excuses from Carl, and won't be pleased at Carl for defending a negligent employee; but if Carl feels he owes it to Rick, he will take that risk.

VIII

Rick gets Carl off the hook by resigning. Now he needs a job and asks Carl for references! His gall is almost beyond belief. He totally screwed up, cost the company big bucks, nearly knocked out the wastewater plant, put both Carl's and Kevin's jobs in jeopardy, and now wants a recommendation. If I were Carl, I'd agree to write it. First I'd tell Rick what I'd put in it. I'd think of all the good things I could say about Rick (which are not insignificant, considering his willingness to work hard, study and get ahead) but also I'd feel obliged to mention the circumstances of his departure from Emerson. If I felt that Rick's action was an isolated incident, I'd say so. If I were worried about his possible bad attitude and mounting personal problems, I'd say that. The point would be to provide enough information so that the potential employer can determine on his own judgment whether Rick's goof at the valve was an unfortunate and understandable mistake of a basically conscientious person who would likely become a valued employee, or was a sign of irresponsibility. And I'd leave it to Rick to decide whether that's the kind of letter he wants potential employers to read.

IX

Carl goofs again by failing to do the above, and lets himself in for the unpleasant but not unforeseeable consequence of having to explain himself on the phone. Should he explain to the new employer what the negative is in Rick's background? He might then have to excuse his failure to mention it in the letter, which might prove a bit awkward and might not do Rick and good by making his mistake seem more serious than Carl would like.

Why mention it at all? It's usually possible to evade such questions. It might even be possible to argue that Carl has no obligation to the unknown potential employer, but he does have some ties to Rick. It could be also argued that letters or even personal conversations concerning recommendations are all part of the 'recommendation game.' They are expected to contain puffery and little else, and readers discount them accordingly. A great recommendation means the candidate is no worse than fair, a mildly positive recommendation means the candidate is poor, and a recommendation containing any negatives at all means the candidate is terrible and essentially unhirable. This may be an unfortunate situation, it could be said, but that's the way the game is played and Carl as a very junior person is in no position to change the rules.

The short answer to this is that even if these are the rules (which is doubtful) by playing according to them Carl is both reinforcing them and putting his own credibility in danger. Bad rules should be circumvented where possible, not strengthened by being followed. And even if Carl has no obligation to the unknown potential employer, he does have an obligation to people he might write recommendations for in the future; it is better for them that he establish a reputation for candor. Anyway it's not clear that he doesn't have an obligation to the potential unknown employer; we have obligations to strangers, and among them is the obligation to tell the truth. Carl's obligation to Rick, based on ties of family friendship, is to do his best for him, but not to the extent of concealing material facts. Therefore Carl ought to tell the truth about Rick's lapse, but try to convince the employer that Rick

really is a worthy person, as presumably Carl believes. (Of course if Carl really doesn't think Rick can be trusted with another job, then he never would have written the letter of recommendation in the first place).

X

In this scenario, another company, Nurrevo, by odd coincidence has an accident similar to Emerson's on the very same day. Since Kevin's responsible action in dispatching hydrochloric acid to WTW has solved Nurrevo's problem, Nurrevo may be tempted to pretend that nothing happened at their place. Despite this natural temptation, Nurrevo should inform Emerson and offer to share costs, though they might be forgiven if they feel that in doing so they are going the extra mile. Emerson costs would have been the same in any case, Nurrevo might reason, so why should they offer to share them? They probably have no legal obligation, since their spill has been cleaned up, although Emerson might want to contest this in court. Sharing costs would be the decent thing to do, however, since Nurrevo has benefitted by Emerson's expenditure. What they actually do might depend on whether there's a cooperative atmosphere, or whether the two companies are in cut-throat competition, in which case Nurrevo might be tempted to rejoice at Emerson's bad luck.

XI

Andrea Smith is Kevin's counterpart at Nurrevo, which means she's a plant manager. I imagine this is not a terribly exalted position and does not put her in a very strong position to challenge higher management, or to search up the ladder for someone who might take her view of things. She wants to report her spill to WTW, but her superior, Fred, doesn't want to move too quickly, hoping that there's been some mistake somewhere. As it turns out, Fred's faith in Higher Providence is rewarded: news of Emerson's spill arrives just in time to forestall Nurrevo's report to WTW. Andrea is not too pleased with Fred's decision.

Not to confess is a higher management decision which Andrea seems powerless to alter without excessive risk to herself, and so she should be guided by the rule of prudence, which says pick your battles carefully and remember how little ammunition you have. Not everything with which you disagree needs to be challenged. The ethical failure here does not involve any risk to public health or safety, nor any harm to employees, nor does it involve theft, fraud tax evasion, stock manipulation etc. It involves failure to admit responsibility, which is dishonest but not itself harmful, and failure to share costs with a competitor, which is not very nice but perhaps not a mortal sin. So Andrea might want to consider filing the incident away for future reference in her memory banks.

C.E. Harris

Carl Lawrence has a problem on his first day on the job. He finds that the caustic distribution system does not have as many safety precautions as the acid distribution system. He sees immediately that there are chances for a mishap. The plant manager really should be encouraged to improve the caustic distribution system before an accident, but it is not always a good idea to raise problems on your first day on the job. The manager may be inclined to say, "Look, you don't know your way around yet; don't start out by making trouble." Carl may in fact not have all the relevant information. Perhaps he should begin by trying to find out whether there have been mishaps in the past and making some estimates on what kind of improvements should be made and how much they would cost.

Rick's negligence in leaving the valve open poses a conflict problem for Carl. His obligation to the plant and to the public conflicts with his obligation to his friend, Rick. Carl's dilemma is accentuated by the realization that

Rick could make a similar mistake again. If Rick's negligence was due to lack of sleep, there is every reason to believe that Rick may make a similar mistake in the future. In this case, however, Carl must distinguish between the difficulty of doing what is right because it is hard to do from an emotional standpoint and a situation in which he really does not know what is right. Carl may believe that his obligations to the plant and to the public outweigh any obligation to Rick, but still find it hard to fire Rick. But maybe he doesn't have to fire Rick. Perhaps he can find a way to have Rick moved to a part of the plant where safety is not so crucial. Or perhaps he can help Rick find another job. A person should always look for ways to satisfy as many of the moral demands he faces as possible. Carl probably should feel some obligation to help Rick if possible. After all, Rick is a friend, and he is probably trying to do the best he can under difficult circumstances.

Kevin Rourke's decision to take responsibility for the caustic overflow involved considerable expense, but there is no indication that it placed the company in financial distress. His action might have prevented a disaster for the city, for himself, and for the company. One of the ways of analyzing this issue is from the standpoint of **utilitarianism**, which requires that we act in such a way that we maximize the well-being of everyone affected by the action. A form of utilitarianism that might be especially relevant here is cost/benefit analysis. From the standpoint of balancing costs versus benefits, it looks like Kevin did the right thing. The only complication is that we must balance an actual cost against a possible benefit. Nevertheless, the action seems rational from a cost/benefit standpoint. It is important to keep in mind that, from a utilitarian standpoint, the costs and benefits of everyone potentially affected by the action must be considered. Of course the costs are primarily charged to the company (stockholders), whereas the benefits accrue to the company as well as the managers and employees (who might lose their job if the plant were closed) and the larger population. But then the company created the problem in the first place.

Another way to evaluate Kevin's action is to ask whether we would approve of his action if we placed ourselves in the position of those who could be affected by a caustic overflow. These groups would include the local citizens, other managers, stockholders, and other employers.

It is not possible to consider all of the moral issues raised in this case, but two more deserve some consideration. With respect to Rick's request for a letter of recommendation, Carl must weigh his personal loyalty to Rick against his obligation to fail to inform a potential employer of Rick's liabilities as an employee. A dishonest letter of recommendation can cause another employer to make a decision that is not properly informed. Carl must ask himself whether he would like to be in the position of the potential employer if he (Carl) writes a letter that fails to mention Rick's negligence.

Carl faces an even more serious problem when he is informed that Rick may be employed in one of the "safety areas." This presumably means that Rick is being considered for employment in an area where alertness is at a premium. Without the information about Rick, the employer may be about to make a seriously misinformed decision.

With respect to Nurrevo's accepting responsibility for its own accident, we might first ask whether an individual should accept responsibility for harms he or she has caused, even if he or she could avoid taking such responsibility. The answer to this question is in general clear: if a person does not take such responsibility, he or she is overriding other people's freedom of action by forcing them to pay for a harm they did not cause. Then one must ask whether the same analysis applies to corporate responsibility. That is, are corporations responsible for their actions just like people are?

Wade L. Robison

I

If Carl Lawrence is supervisor of the caustic as well as the acid distribution system, then he ought to talk with the plant manager, Kevin Rourke, about why the two systems are different. The main point of the talk ought to be to determine if the caustic system as is safe as it can be, given the differences. It is often easier, as an outsider, to notice differences that might make a difference than it is for someone who has become so familiar with things that he or she no longer notices the details. Too much familiarity may breed not only contempt, but indifference.

But an additional area of concern for Carl is whether there are any written procedures for filling the tanks. If these are standard, they should be. Even if they are not standard normally, but are standard for the acid system, then they should be. For the operating principle here ought to be that distinctions ought not to be made between the two systems without reasons, based on safety, for the differences. The more differences there are, the harder it is to teach those responsible for operating the system about them and the harder it is to make sure that everyone does in a regular way exactly what ought to be done. Establishing a similar set of procedures for both systems has a safety advantage, that is, in making it easier to train those working with the systems, since they will need to learn only one set of procedures, not two, and in making it easier for those using the systems, since they will need to remember only one set of procedures for both, not doublecheck each time they work on each to make sure that they are following the right set of procedures.

That Rick has no problems with the setup, after working there for four years, is some sign that it may not be a serious problem. Carl knows Rick, but not enough about Rick to know how good a judge he is of the safety issues involved. So what Rick says has to be taken with a grain of salt: one worker has not had any difficulties.

II

Carl should tell Kevin Rourke that he has located the problem, that it is now solved, and that he is going to have to look and see what can be done to prevent a reoccurrence. He should certainly acknowledge responsibility for failing to have C-2 checked earlier. He should also make it clear that what is needed is some way to make sure that such failures as his failure to remember that no one was on duty in that section do not occur again.

Identifying Rick as the one who left the valve open is another question. First, Carl does not know that Rick left it open. What he knows is that Rick was assigned that section the previous shift and that no one was assigned it afterwards. He may infer that Rick left the valve open, but though Rick does not remember turning it off, he-- Rick--also says, "I can't believe I forgot to turn it off!" For all Carl can know, someone else may have come in and turned it on after Rick turned it off.

Second, even if Rick left it open, it looks as though the caustic distribution system was waiting for a disaster to occur. If we leave doors open when we have pets, the pets are bound to get out sometime or other; if we fail to close cabinet doors when we open them, someone is bound to run into one sooner or later. Similarly, if we have a system which has no fail-safe mechanism so that if a mistake is made, it will automatically correct itself, then accidents are bound to occur. No doubt the person who causes the accident is responsible to some extent. One can tell the person who runs into the cabinet door to watch where they are going. But to hold that person strictly liable ignores what features of the system conspire to make such an accident easy.

So it is not obvious that Rick can be properly blamed here. One does not have enough evidence to convict him in a court of law, for instance, and so one has room for doubt. And, in addition, one has to hold the system partly accountable for making that kind of an accident easy.

So identifying Rick as the one who left the valve open is probably a mistake. The most that Carl ought to say, if asked, is that Rich had the previous shift in that section and that the whole thing needs to be investigated.

III

Kevin should notify those at the wastewater treatment works that some caustic waste had been released, that he is not sure how much because he is not sure when the valve was left open, but that he will deliver enough acid to counter whatever high pH count the caustic waste might cause.

Since the wastewater treatment plant's pH meter is out of service, he should offer to supply one from the company if he has one and can spare it. Without such an offer, the offer of as much acid as necessary is without much substance: the plant will not be able to tell how much is needed.

Kevin ought to do these things just because it is the right thing to do: if the caustic acid were to overwhelm the organisms that such wastewater treatment plants use, then effectively untreated waste would be discharged into the water system of those who depend upon the waste treatment plant to provide them with clean water. And they would be harmed by having contaminated water. So Kevin owes an obligation to those people to make sure that his company does not cause the wastewater treatment plant to harm those who depend upon it.

But there are also very practical reasons for notifying the plant, delivering acid, and so on. There cannot be many plants about that could cause such problems for a wastewater treatment plant, and if something does occur, it is highly likely that the authorities will trace the problem to the company. So the company will get a bad name for polluting the city's water supply and not doing anything to prevent the pollution when it knew that something could be done, and, in addition, it is likely to be sued by citizens and by the city. So its reputation will be harmed, it will be suspected when future incidents occur, and it may have to pay legal costs both to protect itself and to pay damages should those who sue win.

IV

I think that Kevin Rourke did the right thing--despite the costs. The local citizens were spared potential harm to their health through polluted wastewater not properly treated by the plant. The owners and stockholders of Emerson gained the credit of being associated with a company that takes responsibility for its mistakes and tries to correct them, and they also probably saved money since the \$60,000 plus (for modifications to the caustic distribution system, and more for the several hundred gallons of wasted caustic, and so on) is likely to be less than the lost to the company from paying lawyers to defend it against law suits, some of which they might well lose. In addition, one can argue that nothing is of more value to a company than its good name. Lose the name and one effectively loses sales that one cannot measure. One will not know how many would have purchased products from the company but for its bad name. So keeping its good name for \$60,000 plus is a bargain.

From the standpoint of the wastewater treatment plant, Emerson becomes a good neighbor, one willing to let them know when they may have problems because of something that has happened at the plant. So the plant can be somewhat less vigilant and concerned about Emerson's discharges than it might otherwise be. Emerson's action may put it at a short-term competitive disadvantage vis-a-vis any other similar firms in the area that may make the same products and discharge similar wastes, but the disadvantage is for the short-term only. Any other such firm would be at a competitive advantage only if they released waste and did not bother to help clean it up, but then such a firm would face the same problem that they are likely to be tracked down--and have to pay lawyers, citizens, and the city--and so suffer long-term losses.

V

If Rick Duffy was negligent, Carl should reprimand him. But he should not fire him. There was no rule for what would happen if someone left open the caustic valve. So to penalize Rick for doing that would be to make him subject to a rule that could only come into existence after his failure. That would be unfair. In addition, Carl himself thought there might be a problem with the caustic system, and, as the story has unfolded, he clearly failed to do anything to make it any safer. So he has to share part of the blame here for allowing a system to continue in which such accidents could so easily occur.

The friendship between Carl and Rick is irrelevant here. If we are to assume that Rick was negligent and so deserves some sort of reprimand, Carl cannot rescind the reprimand, or lessen its severity, out of any friendship to Rick. That would be unfair to any others who might be similarly reprimanded, but have the bad luck not to be friends with the supervisor.

VI

Kevin rightly should be concerned. It is puzzling that he himself had not paid any attention to the differences in the two systems and to whether those differences might not cause problems for the plant, but, then, he might respond that is why he hires people like Carl. It is their job, not his, to tell him what the problems are. So he needs to talk to Carl to ask him why nothing was said about the sorts of problems that might come up, to determine what Carl now thinks ought to be done to prevent similar occurrences in the future, and to encourage Carl to talk to him in the future about whatever problems he considers important.

What seems missing in this situation is an open exchange of views between Carl and Kevin, the sort of "Why is this done this way?" and "I'm not sure, but let's figure it out" that may require a change in both Kevin and Carl. Kevin ought to ask himself what it is about him, or the structure of organization in the plant, that would account for Carl's not coming to him about the problem, and he needs to ask Carl what could be done to improve communication between the two of them. If one solves problems by dialogue, one needs to make sure that the conditions that make dialogue possible exist.

VII

Carl in fact does not know for sure that Rick left the valve open, though the evidence certainly points that way, and as has been said, he has to bear part of the responsibility for not pursuing the matter to begin with to change the system so such accidents were less likely to happen. And he ought to tell Kevin that. Firing Rick is not the place to start. They should start by figuring out how to change the system so that if someone forgets to do something, as is bound to happen, nothing untoward occurs. And Carl ought to tell Kevin that as well.

It is also unclear, even if Rick were responsible, that it is appropriate to fire someone for one mistake if, as seems the case here, the past work record is not only clear of any mistakes, but more than adequate. We all make mistakes, and if one mistake were enough to justify firing us, we would no doubt all have been fired from more than one job by now. What is required for such action is a pattern of irresponsibility or stupidity. The pattern need not be of great duration to justify firing in some cases, but it is hard to imagine a situation where a single mistake would be enough to justify firing. Kevin is acting out of anger here, and if he were to apply the principle he is adopting to his own situation, he would find that he should be fired too: after all, he made the mistake of not checking the caustic acid system to be sure that it would not cause problems.

VIII

Carl should say that he is sorry to see Rick forced to leave in such a way and that of course he will write a letter of recommendation. In the letter, there is no need to mention what he suspects Rick did regarding the valve. Again, it is an issue of what standards we are to hold people to. If Carl were to hold Rick to the standard of never making a mistake, then no one would ever get a letter of recommendation from Carl, Carl included. What is important is whether the mistake is part of a pattern of Carl's behavior, or whether it is explicable in such a way that would explain his apparently exemplary work for the four years he worked at the plant. And given Carl's going to school, having a wife who is pregnant, and holding down a full-time job, such a mistake is explicable. That is, it is understandable that someone who is otherwise fully competent and responsible might, under such circumstances, make a mistake. One should not make a judgment about their character, or their capacity to work well, based on that one mistake, but on their basic competence and sense of responsibility.

Of course, one could judge here that Rick is not quite as responsible as he should be. When initially asked about the caustic system, his response was that though he did not have any problems with it, "that's somebody else's concern, not mine." He thus indicated that he was not willing to initiate any act that called for responsibility over matters not obviously of direct concern to him. So if Carl is going to write a letter of recommendation, he should take that initial response into account--just as he should take into account any of Rick's actions that might tell on his character.

The bottom line here is thus that he should mention Rick's apparent mistake only if it is indicative of his character, that from what we know it evidently is not, and that therefore he should not mention it.

IX

If he should not mention the apparent mistake in a letter, he should not mention it over the phone either. The principle is not that one should never say on the phone what was is unwilling to write, but that one should never say on the phone what one had good reasons not to write. Carl had good reasons for not mentioning the apparent mistake in his letter of recommendation, and those good reasons have not changed because the person receiving it has called.

X

Nurrevo ought to inform the wastewater treatment plant of its accident for just the reasons given above for Emerson's informing the plant of its accident. Among other things, it is difficult to keep such things quiet, and should information about the accident get out, Nurrevo would not only have the sorts of problems Pro-Growth would have had, but also the additional problem that people would think that it was trying to piggyback on Emerson's accident--taking advantage of their accident and trying to make it look as though the magnitude of the problem, whatever that was, was entirely Emerson's fault. It is wrong to cheat, and it is even worse to cheat and allow someone else to take the blame for one's cheating.

XI

We find ourselves in many moral problems because we neglected to do something early enough on in a process: a mistake early on sets up a moral complication. Here Andrea should not have accepted, at his word, her superior's remark that Andrea did not have to take care of the problem because "it's all taken care of." She no doubt assumed that he had called the wastewater treatment plant, but she ought to have checked. That would

have forced him either to lie to her or to explain to her, as he later did, that Nurrevo was piggybacking on Emerson's problems. She should then have given to Fred Barnes all the reasons we have already given in regard to Emerson's informing the wastewater treatment plant. That is, she should have initiated a discussion with him about what they ought to do, making it clear to him what her concerns were and putting him in a position where he would have to articulate his reasons for doing what he did.

She wonders how far up the organizational ladder she would have to go to find someone who would listen to her concerns, but she has to start with her superior and give him a chance. That he acted as he did may only mean that he would act that way when he has not thought about the issue much, and when he thinks about it and considers Andrea's concerns, he may reconsider his action.

So she must first give him a chance. After that, it will be time enough to consider what else to do. Clearly, if the reasons she thinks call for disclosure are as significant as those we discussed earlier in regard to Emerson, and there is no reason to think the reasons would be any different, then she has an obligation to go further up the organizational ladder should Fred Barnes not wish to pursue the matter. She also has an obligation to tell him what she intends to do--after, of course, they have talked it through and he has had a chance to consider what ought to be done.

If it comes to that, he will feel pressured, and he will be pressured, and that will no doubt create an awkward situation for Andrea. But advancing within a company at the cost of ignoring what is moral is not laudable. Her primary concern ought to be able to figure out a way to make her point without causing the kinds of ripples a confrontation might provoke. So if she has to confront Fred, it ought to be low-key. "Is there someone else I can talk to about this; I'm really feeling uncomfortable about letting it rest here." Or, "Could we both go to X [our superior] and see what he [or she] thinks about this? I don't think either of us should have it on our heads if the worse comes down."

Henry West

I

In retrospect, Carl should have talked with Kevin Rourke about the distributions systems, if he foresaw a problem there. But Carl has little practical experience; if he accepted Kevin's explanation--that the caustic system is used so much less--he might well have accepted things as they are. It may be that it isn't an ethical question so much as a matter of judgment as to whether there will be a problem. But if Carl anticipates that there is likely to be a problem, with severe environmental consequences, such as a leak or a valve left open which would discharge excessive amounts of caustic into the waste water system, he should at least raise the question of whether it would be wise to modify the caustic distribution system. The cost might be such, and the risk of a problem so remote, that it would be reasonable to do nothing. But if Carl has a concern, he should pursue the matter.

II

When the emergency arises and Carl has located the problem, he must immediately report it to the plant manager. He also needs to report that it isn't known how long the valve was open, and that requires reporting who left it open and that he failed to have it checked earlier. To do otherwise would be irresponsible, and since he would have eventually had to acknowledge what he knew, he would be better to be as informative as possible about it now.

III

Even if it were impossible to trace the excessive caustic waste to its source, it would be irresponsible of Kevin not to report it and to do everything he can to neutralize it. If there is any question about it, think about the situation from the point of view of those who operate the waste water treatment plant. Look at it from the point of view of the general public.

IV

From the point of view of the WTW, Kevin's actions were responsible and helpful. Otherwise, they might have had a serious problem on their hands.

Emerson management and stockholders might be short-sighted and think that it could have saved money by Kevin's not disclosing the source of the caustic discharge. They might think that they could have avoided the cost of the hydrochloric acid used to correct the problem and the modification of the caustic distribution system which they felt that they had to make after being a source of accidental discharge. But enlightened self-interest would dictate that Kevin's rationale is correct, wouldn't it? They might also be enlightened enough to think of others affected and want to be a public-spirited company as well. Other industries and local citizens that use WTW would be inconvenienced and perhaps have to share the cost if the WTW service is disrupted.

Suppose, however, that Emerson Chemical is losing money. Every unnecessary expense puts them that much closer to bankruptcy, and that will cost jobs. Does that make a difference? Suppose that disclosing and correcting the problem is going to cost millions instead of tens of thousands. Is there a point at which being a responsible company is too costly?

V

Friendship does mean something, and awareness of the hardship that would be caused by someone being fired counts too. It has weight but not absolute weight. It can be outweighed by poor job performance. Is this a single case of negligence in Rick's job performance, or is it part of a pattern?

Carl is responsible for those who work under him; so he can't just ignore the problem. He can talk to Rick about whether Rick isn't neglecting his work for his studies and whether he shouldn't think about cutting back on the latter if he can't do both.

VI

Kevin is also responsible for those who work under him. Carl's unit was negligent in checking C-2 in an emergency situation. He needs to find out not only who was negligent in leaving the valve open, but why it wasn't discovered in the emergency check. So he does need to have a serious talk with Carl. Whether he needs to take any action against Carl probably depends on Carl's general performance. Has he been negligent in any other work, so far as Kevin knows?

VII

If Carl claims that he doesn't know who left the valve open, he is showing a lack of control over his department as well as being dishonest; so that probably won't help the situation. If he thinks that Rick has otherwise done excellent work, he may try to persuade Kevin to rescind the order that he be fired.

VIII

If Carl thinks that Rick has been doing excellent work and thinks that there is a possibility of changing Kevin's mind, he might ask Rick to reconsider his resignation. If he would want Rick to stay on the job, he can say that in a letter of reference. There isn't any need for Carl to tell Rick that he has orders to fire him, unless the subject comes up. He also doesn't need to say that in a letter; nor need he say that Rick was guilty of a serious case of negligence if that was the only one. If, however, Rick's work hasn't been good, and Carl cannot honestly write a letter which speaks well of his work, Carl should explain that to Rick, telling him what he would say in the letter and letting Rick decide whether he still wants him to be a reference. It is possible for a letter to call attention to good points without stressing the bad ones. For example, the very fact that Rick has regret over his negligence shows something about his character. Carl may be able to talk about that even if he can't recommend his job performance.

IX

Carl will have to make an honest estimate of Rick's future performance. If he sincerely believes that Rick will be reliable in the future, he could say nothing about the open valve. If he thinks that Rick's studies are interfering with his work, he could suggest that the prospective employer raise that question with Rick. But it will likely cost Rick the job. He should do it only if, in his judgment, Rick can't handle both; and maybe he shouldn't do it even then.

X

If Nurrevo doesn't know of WTW's spill, it is in exactly the situation that Emerson was in, and so the above reasoning would apply to it. If, however, Nurrevo finds out that WTW has already disclosed that it has had a spill and will provide the hydrochloric acid to take care of it, Nurrevo is a different situation. The spill will be taken care of. There will be no damage to the WTW. So it is not a question of environmentally damaging consequences. There is, however, a question of fairness. If Emerson is cleaning up Nurrevo's mess, Nurrevo should in fairness share costs. Isn't that what Nurrevo would want if it cleaned up Emerson's mess?

XI

Andrea could argue with her superior, claiming that in fairness Nurrevo should report and share costs. If she doesn't get anywhere with him, she could take the matter to someone further up in the company, but is it worth it?