

Case Study—Gray Water/Black Water Overflow

Super Cruise Line Inc. owns five large cruise ships operating from Gulf of Mexico ports in the southern United States. The ships offer seven-day round trip voyages to Cozumel, Belize, and the Cayman Islands, entertaining guests with world class performers, warm sunshine, plentiful food and drink, and activities ranging from the mundane “sit by the pool exercise” to the exploration of the ancient Mayan ruins of the Yucatan Peninsula. Ships operate as floating cities – comparable in terms of complexity to a utility and public works department of a small shore-side community. Concurrent with the principal focus of entertaining guests, ships must operate in a safe and environmentally responsible manner, complying with the regulations of international maritime law, various federal laws, and the local regulations of the ports they visit. Compliance to law is mandated by the company’s environmental management policies and procedures.

Two of the dominant waste streams are black water and gray water. Black water is the term used for the waste stream generated by the ship from toilets, urinals, and drainage from the ship’s infirmaries (including wash basins and wash tubs) located in the medical area. Gray water is the waste stream generated by the ship, for example, effluent from galley services (such as sinks, drains, dishwashers, etc.), laundry services, showers, baths, and washbasin drains. If gray water becomes mixed with black water, the entire mixture would then be classified as black water, which is regulated more strictly than gray water.

All persons, passengers, and crew members aboard a ship add to the two waste streams. Due to the nature of a ship’s construction and the inability to hold this water for longer than 48–76 hours because of limited tank space, the waste requires continual management by ship officers. Black water is always treated to an acceptable level through a United States Coast Guard-approved Marine Sanitation Device (MSD) before being discharged overboard. At Super Cruise Line Inc., gray water waste is held while in port and then discharged untreated into the sea. The company allows discharge of these wastes only outside of twelve nautical miles from land and marine sanctuaries, even though discharge is usually allowed by most port regulations while in port. In fact, most commercial ships routinely discharge in port.

While all waste is processed according to international law and the laws of the States in which ships visit, the Company has instituted a policy that exceeds regulatory compliance requirements. It believes that protecting the marine environment protects the

beautiful destinations in which its ships operate and its guests enjoy. It makes good business sense to preserve the environment.

In some areas, such as the State of Florida, Super Cruise Line Inc. entered into a voluntary, formal agreement with State regulators, agreeing not to discharge either gray or black water into any Florida waters.

However, one Saturday afternoon in December, in the Port of Tampa, there was an accidental release of both gray water and black water. The situation surrounding the release began as a typical busy turnaround day in port with disembarking guests passing through Customs and Immigration en route to their transportation home. At the same time, new guests were preparing to board for the next cruise. The ship's officers and crew were putting the ship in order for the next voyage. The hotel staff was washing linens and cleaning over a thousand cabins as the engineering staff loaded fuels and supplies for the coming voyage.

Edward Smythe, a young man of 29 years of age, was in charge of the engineering watch. He was a European but licensed as an engineer by the country of Liberia. His responsibilities included the operation of the engineering plant and the management of his assistants. Although young, he was an experienced engineer. However, his experience was mostly gained aboard commercial tank ships transporting gasoline between South Africa and Europe. This was his second voyage aboard a cruise ship and his first as the responsible person for the engineering plant. His immediate supervisor was the chief engineer, Dominick Dupree. The Chief, as he is called, was responsible for the entire engineering department of the ship. He managed a staff of 75 operators and maintenance personnel.

The Chief was 55 years old and well experienced aboard cruise ships. He had operated cruise ships for 30 years and had been employed by Super Cruise Line Inc. for the past 19 years, the last 5 years as chief engineer.

The Chief was second in command seven years ago when he witnessed an incident that would later result in a \$7 million fine and seven years of probation for the company because the previous chief engineer was found to have illegally dumped water mixed with oil into the sea for over two years. The previous Chief's attitude was very cavalier, saying the ocean could "take it" and the machinery was more trouble to run than it was worth. Because of this criminal activity, he spent a year in prison.

Consequently, the current chief engineer had first-hand knowledge about the fact that it was not worth "cutting corners" when it came to obeying the law. Through the seven-year

probationary period he and his colleagues learned to go beyond compliance. This attitude was deeply instilled in him as the company went through a cultural change resulting in a real appreciation for the environment, followed by a mandate to protect it as best they could. Chief Dupree became committed; he promised never to allow himself or his staff to take shortcuts regarding the environmental aspects of the operation aboard his ship. This culture was the one that the new engineer, Edward Smythe, found himself in; it contrasted sharply from the culture in which he was trained. That culture was one of cutting corners whenever possible in order to increase profits.

About 1:00 P.M. on that turnaround day, Edward Smythe was a busy man. He was responsible for loading fuel and potable water into the tanks of the ship. His staff was performing maintenance, and the hotel staff was busy cleaning the ship. During this period, large volumes of water were being sent to the holding tanks. This included black water from the toilets, gray water from the showers, laundry water from the washers, and water from the floors being scrubbed. Additionally, the galleys had generated large volumes of water from cooking and cleaning after the breakfast meal for 3,500 people. When cooking for lunch began, the waste water load was already abnormally high.

Furthermore, during the previous week's cruise, the ship experienced a failure of the black water treatment equipment. Because of this, Chief Dupree ordered the holding of all black water for the three days that it would take to reactivate the system. Chief Dupree planned to hold the waste until the treatment system was repaired and then treat what was held before discharging any of it into the sea.

Unfortunately, the generation of the week's black water was twenty percent over the normal production. Although the Chief calculated that he had sufficient holding capacity until the system was fixed and the effluent could be processed overboard on Sunday, he did not anticipate the extra load from the additional cleaning during the turnaround day, Saturday.

Smythe, fully aware of Chief Dupree's plan, became alarmed when he saw that, of the three tanks holding the excess black water, two were completely full and the third was rising quickly, soon to reach its maximum capacity. There were no extra tanks to put the rising black water into, except for one gray water tank. Despite the fact that it was acceptable to use the gray water tank for this purpose, it was not normally done aboard company ships.

Smythe decided to open the proper valves, start the pump and transfer half of the almost full black water tank to the gray water

tank. This put both tanks at half capacity. During the operation he became distracted when the electrical generator, a critical piece of machinery, indicated a malfunction in its cooling circuit. He changed focus and became involved with addressing the problem with the cooling circuit on the generator. He stopped the pump transferring black water to the gray water tanks, but he forgot to close the valves. For the next three hours the open valves allowed water to flow freely into the tanks.

At 4:00 P.M., the bridge officer, Mr. Jamison, noticed some liquid spilling out of the vent on the port side of the ship. He called the engine control room and informed Smythe of the leakage. Smythe told Mr. Jamison that there was no pumping operation going on at the moment and not to "bother him," as he was busy with other tasks. But the bridge officer Jamison, having worked through the same environmental cultural transformation as Chief Dupree, immediately called the captain and chief engineer. Chief Dupree went straight away to the engine space to investigate and discovered the open valves. He closed the valves without delay, and the flow overboard stopped. The time it took from the first sighting of the leakage to the cessation of the overflow was about 15 minutes.

Chief Dupree then proceeded to the engine control room. Upon entering he confronted Smythe who uttered, "It's not my fault." But Chief Dupree was less concerned with "fault" than with ensuring that proper immediate actions were taken. He tried to help Smythe understand that "transparency" is the key word in all environmental operations. Nevertheless, Smythe kept insisting that he was not at fault.

Before long, the Chief had enough information from the ship's machinery automation systems to understand what had transpired. He was able to identify when the valves had been opened and the times that the pumps were started and stopped. He also established that Smythe neglected to close the valves and that the overflow of the gray water tank into the sea resulted from gravity flow of the waste waters into the tanks from above. After he completed his investigation, the Chief left the control room to discuss the event with the captain.

Dupree briefed both the captain and the environmental officer. Every ship has an environmental officer to oversee environmental compliance; he reports directly to the captain. Afterwards, the three contacted the shore-side environmental compliance department to report the violation via speaker telephone. The time was 4:30 P.M. It took thirty minutes from the time of the overflow sighting to the first report.

These officers were aware of the culture that existed prior to the Environmental Compliance Plan and the probation days in the company's history. They knew that this type of reporting would never have happened so quickly then, if at all. Subsequent to a short discussion, everyone mobilized to report the events to the United States Coast Guard and the State environmental authorities.

First, they contacted the local United States Coast Guard Marine Safety Office and reported that approximately three cubic meters of gray water, mixed with untreated black water, had overflowed into the sea, and therefore the spillage was illegal. Secondly, they contacted the Florida authorities. All the details were fully and completely revealed to the authorities within sixty minutes of the event.

An investigation team was dispatched from the company's environmental management department. The team was scheduled to arrive at the next port of call which was Cozumel, Mexico.

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Case Commentary: The Company

A utilitarian, a Kantian, and a justice ethicist would all give the company a positive ethical review. After committing some serious errors in the past, the company turned itself around and created a corporate culture that includes putting a very high value on protecting the environment. Moreover, it has backed this corporate culture with training.

From a utilitarian perspective, all of the company's recent actions are to be praised. The company is clearly promoting "the greatest good for the greatest number" by taking critical action to ensure that the environment is protected. In addition, it has taken its environmental obligations seriously enough to instill strict corporate practices and to train its personnel to adhere strictly to those practices. All of this demonstrates ethical behavior from both an act utilitarian and a rule utilitarian perspective.

Kant would be concerned with the company's true motivation. Are the new practices and new corporate culture really a change of heart from previous negligent behavior? Are they indeed evidence of a new ethical perspective based on responsibility to others? Assuming that the new attitude is a genuine change of heart, Kant would laud the company for its strong adherence to an ethic of duty to others through its environmental practices. The rights of others are being respected by this company, which is not attempting to hide facts from others, or to deceive them.

Likewise, both justice ethics and virtue ethics would praise the actions and the character of this company and its leadership. Justice is being served by ensuring that environmental pollution (an "externality" to the company's profit and loss statement if the company can get away with polluting while the

taxpaying public picks up the tab) does not unjustly harm those least advantaged. Additionally, those corporate officers formulating and carrying out the company's strong environmental protection policies display strong, virtuous character.

Despite all of its good intentions, the company has inadvertently committed another environmental infraction. Should the company be held responsible for the action of one of its employees, even if that employee had been trained regarding the protection of the environment?

There are two justice questions at play here: compensation and retribution. First let's look at compensation. The company should unquestionably pay for any necessary clean up. The company may also incur some further expenses, perhaps to retrain Smythe or to train additional diligent new personnel working in this area, but beyond that no other compensatory costs are evident in this case.

Beyond compensation, is retribution warranted in this case? Should it be heavily fined for this violation? This company should not be fined because it has diligently attempted to work within the law and has shown itself to be reasonably responsible. In this particular instance, it is clear that they jumped into action to curtail the situation as quickly as possible as soon as they discovered the error, and that they promptly and honestly reported the matter to authorities.

Beyond a fine, retribution could also involve some other category of penalty for the company. Examples might include an additional probationary period or other curtailments of its activities. But, again, there appears to be little basis for retribution in this case. The company acted responsibly and promptly when it learned of the leakage. It had worked very hard at training employees and endeavored to maintain an environmentally sensitive corporate culture. In fact, in this case, the worst that could possibly be said against the company is that it hired the wrong employee, Smythe. At most, any reprisal should be minor. For instance, the company might be told that the violation will be marked onto its record, or it might receive a written warning about the spillage.

Case Commentary: The Individuals

Chief Dupree, bridge officer Jamison, the environmental officer and the captain are all to be commended for their swift and timely action. If they had not moved so quickly, the spill could have been much worse. They had been through similar circumstances; they put training and knowledge into action, and brought a potential disaster under control.

There is still the question of Mr. Smythe, the engineer who became distracted, thereby allowing the spillage to occur in the first place. The same two justice questions that we discussed earlier are at play again: the issues of compensation and retribution. First let's look at retribution. Should Mr. Smythe be punished for allowing the spillage to occur? And if so, how severe should the punishment be?

Mr. Smythe should definitely face some type of retribution. He failed to close the proper valves; he allowed himself to become distracted in a key situation, which showed him to be unreliable; and he was dismissive to a

crewmember when the crewmember tried to bring significant information to his attention. The ethical question becomes whether or not his carelessness was reckless and morally wrong. However, no great, lasting harm transpired, and the carelessness may be understandable, so one might not think that Smythe's behavior was unethical. Therefore, perhaps no major ethical question concerning Smythe is involved. A spillage occurred that could be cleaned up.

On the other hand, Smythe also was unwilling to accept the responsibility for his actions. He immediately claimed that the action was not his fault. Furthermore, he was unable to understand that fault was not the issue at hand; the danger to the environment was the fundamental matter.

Assuming that Smythe has engaged in morally problematic behavior, what is the wisest course of action by the company toward this employee? Possible courses of action range all the way from severe punishment, such as discharge, to taking no action at all. Probably neither course of action is wise or warranted. A middle course, such as additional training and milder punishment (probation, suspension, etc.) may be the wisest course of action to follow.

If we were to examine the overall situation strictly from a utilitarian perspective, we could measure the benefit against the harm. How much harm is going to occur from the spill? Will marine life be devastated for years? Or, will the spill dissolve quickly and not have any lasting effect? If it is the latter, actual harms are not that many. A utilitarian would also focus on the actions taken to avoid errors such as the spillage. For example, the company has trained its employees. This has enabled the company to support the environment in all of the communities it serves, even when mishaps like this occur.

A utilitarian might also scrutinize the legalities of the situation. The cruise line has shown itself to be a good business recently because it has avoided getting into serious trouble; it has done everything possible to avoid lawsuits and bad publicity. The predominant view here might be that good ethics is good for business.

Finally, we might ask if firing Smythe would lead to better consequences for everyone involved. A utilitarian would say that he should not be let off the hook completely, because it could likely lead to other infractions, either by Smythe or others who see him "get off the hook." Some type of penalty is warranted, because that will lead to better long-term consequences. A rule utilitarian would insist on a universal way to treat all employees who commit environmental violations. However Smythe is to be treated for his infraction, is the way all employees should be treated for similar infractions.

As stated earlier, Kant would agree that the organization has done its part, although the ethical praise it deserves for this behavior would depend entirely on its intentions: is it "doing right" because it is *good for the environment* or because it is *good for business*? If the former, praise is merited; if the latter, the behavior has no particular moral significance.

Kant would find Smythe's behavior to be ethically problematic. Smythe was not following the categorical imperative when he failed to treat others and their welfare as paramount (as an "end in itself"), and his refusal to take responsibility

for his own actions shows a further unwillingness to do his duty to other humans. He has shown himself to be morally irresponsible.

From a justice perspective, Rawls would find polluting our environment to be unjust to the many who depend, indirectly or directly, on that part of our environment. A brief step behind the *veil of ignorance* quickly reveals this. So, Smythe's actions have also led to an injustice, albeit a relatively minor one since the problem was discovered and corrected so quickly. The remaining justice question is what form of retribution Smythe should face, a matter discussed earlier.

Aristotle examines a person's character. He would find both Chief Dupree and bridge officer Jamison to be of fine moral character. They both showed courage and prudence (wisdom) through their immediate actions. Conversely, Smythe showed himself to be unethical for two reasons. First, he evaded his responsibility by claiming that the leakage was not his fault. This demonstrated a lack of both courage and honesty. Second, he exhibited a distinct lack of prudence through his careless behavior. According to Aristotle, Smythe did not act in a reasonable fashion. He failed to exercise reason and lacks character.