

Don't Ask, Don't Tell...

(Case 1030)

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The Case:

Reilly M. Karful, a wastewater process engineer with Slud, Gefl, Owsdown & Hill (SGOH), has spent the last few weeks designing an equalization tank for the wastewater treatment plant for the town of Whiteside. It so happens that the existing extended aeration treatment plant is located inside one room of a pre-engineered metal building, except for the headworks, which consist of a screen. The design that Reilly is proposing includes installing a new tank inside the treatment room and relocating the screen on top of the tank.

During a design review, the reviewer, Yvonne Moore-Karful (distant relation to Reilly) of the architectural firm Plansem & Drawsem, notices that sewage plant headworks are covered by National Fire Protection Association (NFPA) Code Section 820, which requires certain areas to be Class I, Division 1 or Class I, Division 2; i.e., "explosion proof." Concerned about the potential problem, Yvonne calls to let Reilly know that moving the screen into the treatment room would require the room to be classified as explosion proof, and she follows up this call with a memo and her notations on the design drawings. Reilly decides to double-check this information and he reviews NFPA 820 himself. The code indeed appears to require the headworks and the existing treatment room to be explosion proof because the plant does not have primary settling tanks.

Reilly informs the project manager at SGOH, Dante McWaves, about the matter, and gives him a copy of Yvonne's memo. With Reilly in his office, Dante phones the client, Bull Parker, the town commissioner, to make him aware of Reilly's concerns. Bull happens to be cleaning his shotgun when he gets Dante's call. News of cost increases and delays does not please Bull, and he pointedly reminds Dante that the project is behind-schedule, that Whiteside needs this addition to the wastewater treatment plant to avoid non-compliance with State regulations, and that Whiteside is not a wealthy town. As he trips the action on the shotgun, as if to place a shell in the chamber (Dante hears this over the phone), Bull tells Dante that he'll have the County Fire Code Official, Bobby Burns, get back to Dante.

Reilly notices the color drain from Dante's face and that his hands visibly shake as he hangs up the phone. Within minutes, the fire code official calls and informs Dante that the existing room is already explosion proof. What luck! The problem is solved and Dante, still pale yet with obvious relief, informs Reilly that he doesn't want to bother Bull

with any more problems. Dante then clearly and unequivocally directs Reilly to finish the project.

But Reilly is concerned. While Bobby Burns' statement satisfies Dante, Reilly suspects the fire code official could be wrong. Though Reilly has limited experience with fire codes, he has noticed that the electrical sockets, light switches, lighting fixtures, and junction boxes appear normal and don't give the appearance of being explosion proof. While part of him wants to pursue the matter, he also realizes that exploring his doubts about the existing room being explosion proof will not only further stress out Dante, but could result in additional project delays, in Whiteside having to fund an expensive retrofit to bring their existing facility up to code, and in further annoying Bull.

What, if anything, should Reilly do?

Alternate Approaches and Survey Results for “Don't Ask, Don't Tell...” (Case 1030):

1. Get on with it. Reilly should accept the fire code official's statement, as well as Dante's directive, and get on with the project without delay.
Percentage of votes agreeing: 0%
2. Cover your backside. Reilly should accept the fire code official's statement, as well as Dante's directive, and get on with the project, after first taking the time to carefully document his concerns about the entire situation in a detailed memo to file.
Percentage of votes agreeing: 7%
3. Use the opportunity to learn. Since Reilly is admittedly inexperienced with explosion-proof switches and fixtures, he should “quietly” do some homework on the internet and with electrical contractors or suppliers to determine how to identify whether the fixtures in the treatment plant room are explosion-proof, and he should go out to the site and make the appropriate inspection. If something is indeed amiss, Reilly should estimate the cost for explosion-proofing the treatment room, and compare this with the costs of alternative designs which will not require explosion-proofing. He should not charge this effort to the project, but do it on his own time, and once he feels he has the solution, he should outline a recommended course of action and notify Dante of his findings.
Percentage of votes agreeing: 18%
4. This is too big to handle alone. Realizing that Bull has effectively intimidated Dante, Reilly should, without Dante's knowledge, approach SGOH's managing principal, Mr. Owsdown, and share his concerns about the fire code official's seemingly “convenient” statement, and about Dante's acquiescence in the matter. Reilly should await further instruction while Mr. Owsdown deals with Dante.
Percentage of votes agreeing: 4%

5. Comply with the code of ethics. In the interest of the public health and safety, Reilly should pursue his concerns until he feels the matter is satisfactorily addressed. At the least, this would consist of doing some homework and having a qualified independent third party knowledgeable of the NFPA requirements – perhaps Yvonne – inspect the treatment room with him. If something is indeed amiss, Reilly should engineer appropriate solutions. Further, Reilly should bill all this work to the project, even though it will surely result in a budget overrun for Dante, but that is a small matter compared to the public safety and welfare.
[Percentage of votes agreeing: 15%](#)
6. There are many ways to solve a problem. Reilly should call a friend at the local newspaper and – with the agreement that he be identified only as a “reliable source” – share his concerns about the fire code official’s seemingly “convenient” statement, and about Bull Parker’s intimidation tactics. He knows that his newspaper friend will make appropriate inquiry, and this will pressure Bull and Bobby to act responsibly without Reilly having to get wrapped up in SGOH’s company politics.
[Percentage of votes agreeing: 1%](#)
7. Implement company loss prevention training. After giving Dante time to pull himself together, Reilly should approach Dante and share his concerns about the fire code official’s seemingly “convenient” statement. Further, he should suggest a game plan that shifts the liability off of their firm, such as requesting that the fire code official provide written confirmation of the explosion-proof nature of the treatment room. This gets Reilly’s and Dante’s firm legally off the hook if an explosion occurs.
[Percentage of votes agreeing: 10%](#)
8. Run towards the roar. After giving Dante time to pull himself together, Reilly should approach Dante and share his concerns about the fire code official’s seemingly “convenient” statement. Further, he should suggest that both he and Dante visit Bull Parker to explain their concerns, as well as the ramifications of negligence and the fact that an engineer may not ignore codes in a design. While risky, this puts the issue back in the client’s court.
[Percentage of votes agreeing: 15%](#)
9. Go to the source. After giving Dante time to pull himself together, Reilly should approach Dante and share his concerns about the fire code official’s seemingly “convenient” statement. Further, he should suggest that both he and Dante visit the fire code official and arrange for a meeting and inspection of the existing treatment plant room to look into their concerns. Perhaps the fire code official has never been in the room, or has mistaken it for another, properly explosion-proofed room.
[Percentage of votes agreeing: 29%](#)

10. Check it to them. Reilly should inform Dante that he refuses to continue with the project, and resign from the firm if necessary. While this will be costly to him, it is surely better than being involved when the sludge hits the fan!

Percentage of votes agreeing: 1%

Forum Comments from Respondents

1. I suggest solution #3 (use the opportunity to learn) with the following changes. If something is obviously amiss, a little homework will reveal that to Reilly. Then he has some real facts to take a stand on. If Dante, Bull, or the fire official still refuse to accept the new plans to bring the facility up to code, Reilly can bring the issue to Mr. Owsdown or other officials and insist on an independent inspection. If after doing his homework, it is still not clear to Reilly whether the facility is explosion proof, it should be acceptable, probably mandatory for a routine inspection by the fire official or other qualified inspector to OK the renovation in writing. At that point, there should be no need to doubt the integrity of the fire official, or to insist on additional independent inspections.
2. Although there is intimidation involved, ensuring that the room is secure in the event of a fire is more important than coming in on budget and on time. Even if it costs Reilly his job, he must take action whether he likes it or not to verify the safety of those that will be in that area.
3. Doing your homework and double-checking is the way to go. This is an opportunity for Reilly to do his homework on the explosion proof aspects of the code and this will give him experience for the future. He ought to also double check with the fire official after explaining his concern with Dante. This, I feel, is not disloyal to the client, employer or the public. Since they do indeed need to comply with code, Reilly will be looking out for the best interests of both the company and client, while also following the code of ethics.
4. If going to the source doesn't prove successful in fixing the problem, then Reilly should continue up the chain of command until the problem gets due attention. If this is all to no avail, then a little attention from the local media would surely do the trick. Although Reilly puts his job in serious jeopardy if the media route is chosen, he can rest assured that he did everything within his power to maintain the safety of plant employees.
5. Before visiting Bull, Reilly needs to do some research as to whether the room meets the "explosion-proofed room" standards. Further, he should explore some possible solutions to the problem so that he can suggest a viable approach.
6. Reilly should take the time to place this situation into the five ethical standards and think it through: The Golden Rule Standard, The Professional Ethic, Immanuel Kant's Categorical Imperative, The Utilitarian Rule, and The "60 Minutes" Test. From his conclusions to these five ethical standards, Reilly should then make his decision about what should and needs to be done.

7. Go to the source. If Dante refuses to go to the fire code official, then Reilly should inform Dante that he refuses to continue with the project, and resign from the firm if necessary.
8. After choosing solution #2 (cover your backside), I would also take the approach on solution #3 (use the opportunity to learn) and go to the internet and learn about fire-proof rooms and do further inspection to see whether the room complies with the information gathered by the research. If it does not, I would document the condition and take necessary actions.
9. I don't feel like I am ready to handle these types of things yet (Ed. note: this response is from a graduate engineer with 3.5 years experience).
10. To comply with the code of ethics, means must be made to secure safety. Research and professional insight should be introduced while simultaneously asking for a letter of proof from the fire code official to cover themselves! When the information is gathered and the situation is clearly understood, then throw the ball into Bull's court!
11. Going to the source is a great approach, but I would include Yvonne in the meeting. She was the design reviewer who made the original comment about the explosion proof room. If the local inspector is able to convince her, then the problem is solved and the project can proceed. If she is not convinced, then Reilly is obligated to pursue a solution that the reviewer will accept.
12. If I were Reilly, I would pursue solution #8 (run towards the roar). This option calls for a meeting with Reilly, Dante and Bull (i.e. engineer, project manager and client). The purpose of the meeting is to allow input from all parties and inform the client (Bull) of the ramifications to ignoring the code. In my opinion this is the best option suggested because it addresses the problem in accordance to the Code of Ethics.
13. The course of action should be solution #5 (comply with the code of ethics). This option is the best choice for several reasons. First, public safety is to be recognized as the top priority of any project. Fire codes are written as a direct result of tragedy. They are lessons learned the hard way. There are both legal and humanitarian motivations to building "up to code". The safety of the public is best considered by meeting with Bull and addressing the issue head on. Secondly, although Bull may be an intimidator he is still the client. Reilly has a duty to the client to keep him informed of what is going on and to guide him towards the right engineering solution. The option of running toward the roar is the only option that takes the situation back to the client in a professional manner. This option is supported by canons 1 & 4 of the ASCE Code of Ethics. Further, Canon 1 of the Code of Ethics instructs engineers to view the safety, health and welfare of the public as their primary goal. By meeting with Bull to "clear the air," Reilly would in

fact be serving the public by educating Bull of the problem and the need to handle it correctly. By addressing the issue directly with Bull, Reilly would assure that whether Bull continues to use SGOH, he is at least aware of the consequences of his decisions. Canon 4 of the ASCE Code of Ethics states that engineers should act as faithful agents or trustees for their employer or client. In this case Reilly and Dante need to take the roles of both engineers and lawyers. As engineers they need to inform their client of the technical aspects of the undertaking and to advise their client of the technically correct course of action. They can accomplish this by informing Bull of their findings and/or concerns and suggesting a workable solution. They can give Bull examples of similar situations, and their outcomes, where the decisions were not made correctly. Reilly and Dante have a responsibility to convince Bull that although the decision may be hard and will certainly lead to cost overruns, it is the best decision for safety and financial reasons (doing it right once is always cheaper than doing it twice). As “lawyers,” Reilly and Dante need to protect their client by strongly advising him to choose the legally correct course of action. They need to educate Bull of the legal reasons why he should heed the precautions of re-inspecting the room and re-designing it in accordance to fire code. Reilly and Dante need to convince Bull that not only is he making the right choice for the town but he is also protecting his own reputation. In conclusion, although I feel that the “run towards the roar” option is the best choice for this situation, I do feel that it falls a little short of perfect. For example, there is nothing said about what will be done if Bull doesn’t come around and continues to insist on proceeding with the project as is. There is also no mention of when to inform the principal (Mr. Owsdown) of the situation. Dante and Reilly work for Mr. Owsdown and he should be informed as soon as possible and prior to the meeting with Bull as he may have valuable suggestions based on his experience for how to deal with the situation. I believe that if Reilly and Dante do a competent job of explaining the situation, Bull will make the right choice. But, if Bull does not accept the situation, Reilly and his firm should pull out of the program and document why in a letter sent to both Bull and an engineering firm that would take over the work.

14. While Reilly should educate himself, once he discovers that the room is not explosion proof, all cost to redesign / re-engineer a solution should be billable.
15. I think these actions are a little premature but a combination of aspects from solutions #8 (run towards the roar) and #9 (go to the source) would be the most efficient and ethical. Reilly should call the fire code official back and ask the exact requirements for explosion proof rooms. Then after personal inspection, if there is any question that the room is not satisfactory Reilly should arrange a meeting with the fire code official. Further, Reilly should ask the fire official to sign off that the room is indeed explosion proof. This way, Reilly has covered himself and his firm.
16. Reilly should begin by documenting everything as it occurred. Then, he should approach Dante and visit the fire code official with him. Reilly should also enlist a third party to inspect the room, such as Yvonne. Once these things were done, Reilly should accompany Dante to visit Mr. Owsdown to make him aware of the

situation. At this point, Reilly should ask for Mr. Owdown's support and suggestions. Finally, Reilly should approach Bull with all the facts gathered and offer a solution that meets code. If Bull still ignores the facts, Reilly might consider "leaking" the story to the media to put some pressure on Bull. If it comes down to Reilly being forced to complete a faulty design, he should resign. Regardless of the documentation, Reilly's name would be associated with the structure, and he should not wish to have any part in the disaster that might ensue from an improperly designed building.

Comments from Board of Review Members

17. Reilly recognizes that he is not the official who certifies fire code issues, but remains concerned about the situation nonetheless. As the engineer of record for the project, he might send a letter to the county fire official explaining his concerns and formally requesting a signed letter certifying that the building meets the Class I, Division I requirements. Reilly would keep this letter for his files and forward a copy to the owner.
18. Reilly rightly guards his professional reputation and realizes that this project must succeed both in terms of scheduled delivery and quality of design. Consequently, Reilly might contact another fire inspector and request an independent evaluation of the building's fire protection. If the independent appraisal finds the building not satisfactory, Reilly would need to inform the city that repairs are required.
19. Reilly should make a memorandum for record of the telephone call and provide copies by certified mail to the fire official, city and all other parties involved in the project. If no one disputes the memo, Reilly is legally covered in the event of a future problem.
20. Reilly should put his head together with Dante and settle on a game plan that shifts the liability back to the County (after all, it's the County's project). Dante needs to have the fire code official, Bobby Burns, provide a written confirmation of the explosion-proof nature of the treatment room. If Bobby Burns is not willing to provide such a written confirmation, then Dante should write him a letter, certified, return receipt requested, summarizing the conversation and concluding with a statement to the effect of, "If any of the foregoing is not in accord with your recollection of our conversation, it is important that you provide me with a written clarification of our discussion." This helps manage the liability aspects of the problem.
21. Reilly should make an appointment with Yvonne to inspect the treatment room. If Yvonne is an expert on NFPA codes, she should be able to tell if additional concern is warranted. Reilly is admittedly not an expert on NFPA codes and he should be able to obtain guidance from Yvonne.
22. Reilly should prepare a brief internal memo to Dante stating his concerns regarding the potential code violation and the associated safety issues as they apply to the

people currently and potentially working in the reconfigured treatment plant. He should ask for an opportunity to discuss his concerns in detail with Dante. Additionally, if the matter of who the responsible, licensed, Professional Engineer for this design has not been made clear, Reilly should ask Dante to clarify the firm's policy regarding professional responsibility for this project. On the assumption that Reilly will be asked to sign and seal the documents, then he should state his need to check the actual condition of the facility with regard to code compliance and to assure that the reconfigured facility will meet the fire code. If the firm decides to ignore the issue and proceed without addressing the apparent present and future code violations, Reilly should "polish-up" his resume and look for a more professionally oriented employer.

23. Many, if not most, codes of ethics provide that the health, safety and welfare of the public is paramount. This, therefore, requires the engineer to take all reasonable steps to protect the health, safety and welfare of the public. The facilities (equipment, switches, etc.) not meeting the building code requirements for explosion proof certainly places the public's health and safety in question. Reilly has an ethical obligation to take action. He should first advise the fire code official that he has observed that the electrical system does not meet the fire code. If the fire official declines to take any action, then Reilly should advise his supervisor, Dante McWaves, about his concern. If Dante McWaves declines to take any action, then Reilly should write a memorandum to Dante McWaves, with a copy to Bull Parker (the town commissioner) and the fire code official, advising about the violation of the building code and requesting that he be authorized to make the appropriate revisions even though additional cost and time will be involved. If Dante McWaves declines to give the authorization, or declines to respond, Reilly should request being removed from the project. This may very well cost Reilly his employment, but the health and safety of the public is paramount, even at the expense of employment.