

**“Developing a Cooperative Approach
to Wildfire Protection”**

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The culture of the wildland firefighting community for the most part is good. The questionnaire responses were positive and did not indicate any major areas, other than safety, that needed extensive remedial work or organizational changes. A lot of things can be improved, the respondents indicate, but in my experience virtually all of these things can be improved through bureaucratic techniques well within the organization's capacity: more focused effort here, better equipment there, better communication routines, and the like. It will take a lot of work, but you know how to do that work or your employees would not have been so positive about their jobs.

I want to label the positive things about the organization as the "bureaucratic" dimension. Bureaucracy is a pejorative term for most bureaucrats, but for me it is neutral, descriptive. It covers the rules and regulations and the standard operating practices, the training and staffing, career ladders, rewards and penalties. There is work to be done in your bureaucratic dimension, primarily in the communication area, but you can do it, perhaps faster and better with some outside help. But today I want to focus on a much more tricky task, changes in the other dimension, the "cultural" one.

Bureaucratic changes are tough to design, but they are concrete – training, rules, staffing, and the like. Cultural changes are comparatively insubstantial, the product of accretion, not orders. Culture is a vague and squishy term, and since it is used in so many ways it comes to stand for everything. I want to define it in a quite limited and specific way, and thus make it more useful for our purposes. Here is the charge, the task given to us at TriData, by the Federal Fire Directors... "Change the culture from one of macho risk taking to one that emphasizes safety." Of course this is too general, and phrased like this, impossible. We need to define culture, see what it is at present in terms of actual behavior, and then look at specific steps to try to gradually, and slowly change it. It won't happen fast. You will see some effects in a few months, because you know where to look and are looking for them, but they will be small, and more important, will not be evident to the bulk of employees, and evident to outsiders looking at your performance record, for four or five years! To repeat, if you at your level try damned hard and persistently, you will see small things changing in a few months; others, including all those under you, and the interested public and those in the bureaus above you, will only notice it about four years hence.

This is because "culture," as I will define it, is found in habits, repeated tiny actions, and gradual shifts in the way small bits of behavior and tasks are perceived. This

is important, and it is my key theme. Let me say it once again: Culture is not changed by pep talks and slogans and buttons we pin to our suits; nor is it changed by enacting new rules and hoping they will be observed and punishing people if they are not. It is changed by tiny, repeated actions that show that perceptions have shifted. We notice different things, and ignore other things. Let me give you the example from a firm I studied several years ago.

This firm had a crack bunch of salesmen that were excellent at selling bulk products – steel that was used to make tool bits, grinders, fasteners and the like – to big customers that could switch suppliers easily since everyone produced adequate, easily made steel. The salesmen emphasized speedy delivery, special orders, and low costs. Their competitive edge also included football tickets, presents at holidays and anniversaries, fancy dinners for the buyers, and special services. Then the market changed and more and more of their business depended upon high grade steels, hard to make, carefully graded and inspected, and tailored to special usages – in a word, from quantity to quality.

But the salesmen found it hard to give up the practices they had developed so well and the reward system that emphasized quantity and quick delivery. The vice president of sales tried lecturing, shifting the incentives, and rules and regulations. These bureaucratic techniques were necessary, and worked somewhat, but the old practices – so efficient under the former market conditions – persisted. How was he to get his men to think differently, to see things in a different way? He had to change the culture, the tiny bits of behavior that would value quality over quantity. One thing he did was to review much more closely than he ever had before the performance reports his salesmen sent him, and start circling every instance that emphasized quality, and noting "Well done, just what we want," and circling those that emphasized the old quantity emphasis and noting "OK, but this is not our growth area; and we may be spending too many resources in trying to get and fill these kinds of orders." He was signaling, on a weekly basis, that the world had changed. At the same time, he channeled resources from the big category of "selling expenses" – the gifts, the cost over-runs for last minute special orders – to the small but growing category of "technical assistance." "Send someone out there to get them to explore the customer's manufacturing processes; get them to see that by reworking their product they will have a better one, and then they will be able to use our new high grade steel." In effect, the salesman's task was now enlarged to changing the customer's product and processes; to selling that which the firm was uniquely positioned to supply, rather than that which the customer wanted. The dominance of the glad hand

salesman declined and those with more technical skills began to win the awards, signaling to the younger employees that the name of the game – that is, the culture of the firm – had changed.

The changes on the production side were also dramatic. The vice president of production, who was subservient to sales, when sales was the key to success, did a good job of meeting sales' demands for special and rush orders. But as the technical aspects of production increased in importance with the shift to new steels and a quality emphasis, he became defined as a bullheaded obstacle that would no longer do sales' bidding. Only when they needed a new melting shop, and he was in a position to demand of sales that they predict the changing market, and design the shop for that, was he able to assert training and leadership training – everyone thought that the problems lay in his self-protective and autocratic leadership style – were dropped, and he was redefined as a sensitive and powerful leader. The culture of production had changed along with the culture of sales. New committees coordinating sales and production appeared, and production now was seen as the critical area of the company, and got the power and resources to innovate and produce for the new market. In daily interchange between the two groups, sales came to rely on the technical know-how of production and R&D personnel.

The change in the culture of the company – the change in the habits, perceptions and informal routines – could not be commanded, or driven by orders, but had to come about through repetitive and subtle cues, examples, comments, and signals of top management personnel. They were not even aware of it as such; culture is largely implicit and even unconscious. It is these kinds of changes in the culture of the Service that we have to create. Knowing where you want to go, and realizing that you lead by constant and subtle example, by repeated signaling, means that you can do it more effectively.

A lot of that culture is already in place, or you would have many more disasters. We do not need to create an entirely new culture. We need to enhance the safety culture that already exists, and to moderate the risk-taking culture. Not eliminate it; risks, in this business, have to be taken. We need every ounce of fearlessness, decisiveness, and courage that we can get. It goes with the turf. It is even an attractive feature of the job for some. How do we enhance the safety culture? Later I will suggest a few training devices that might be explored, but they are not going to be very effective unless some changes start with you, the people in this room. Unfortunately, since I know very little

about the actual operations of your organization, I have to make a lot of assumptions, and some of these will be wrong. But I hope I can give enough of the flavor for enhancing the safety culture to be relevant.

It's obvious that you have to be committed to this enhancement yourself. The beginning of changes is that this be made clear to those you come into contact with. It will be made clear through your routine behavior. This means things you do daily, routinely, almost without thinking. (Remember, culture is in the routines, the "taken for granted.") One of your routines, I am guessing, is reading and signing off on memos, drafts, proposals, and reports of all nature. When you come across any part of any of these that can be related to safety, make a special effort to underline a passage, and write in the margin, "good" or "great," or, if you disagree with it, say so in the margin. Very soon your subordinates will get the message that you not only talk about safety, but that it is so much on your agenda that you read memos and reports in this light. Do it unobtrusively; don't announce it; just let the impression build up that the safety aspects of any matter are a high enough priority for you to comment, edit and query. The more unobtrusive and matter of fact your new behavior is, the less room there is for your subordinates to see it as a temporary strategy that can be discarded when things quiet down – or heat up. They have to change almost without realizing it for the change to be grounded in habit.

At meetings, as with written documents, ask "Are there any safety aspects of this that we should be aware of?" or offer comments such as "If we did X and Y in connection with the next scheduled meeting, we could bring out the safety aspects." In meetings or informal conversation salt your remarks with prefaces such as this: "As I was telling John, who has responsibility for reviewing the safety procedures, ..." or, "John doesn't usually come to meetings like the one we are planning, but I would like him to be there." It's better if you don't even say why, just assume everyone is on board with you. If you have people specifically designated as dealing with the safety aspects of programs, my guess is that they have relatively low status, and are perceived as window dressing – much as human factors engineers, or environmental officers or safety officers are in industry. To promote them, and give them some access and power, you have to refer to them casually and continuously, eat lunch with them, be seen with them. This is signaling. In small ways, but repeatedly, this shows that the safety culture is taking root, that it has a supporter, and your subordinates will bend their behavior in that direction.

Next, after having established through concrete, repeated and specific behavior that you are serious about the safety aspects of normal behavior, that you are serious about the safety aspects of normal bureaucratic activity, start as many new programs as you can. Some obvious recommendations that I would make is, first, a data base on accidents and near misses. Employees should be encouraged, and even rewarded in some symbolic way, to recount narrow escapes, dangerous situations, and, of course, actual mishaps and accidents, as fully as possible. We can discuss ways this might happen later, but the mere existence of a strong reporting system will go a good ways to enhancing a safety culture; it shows you are serious, and it continually reminds the line personnel that they play a big role in it.

Second, encourage story telling and discussion of misses and near misses; make it a positive thing to review these and comment on them. Newsletters, an electronic chat room, distribution of graphically told accounts, and a routine agenda item on every type of meeting possible that asks people to come forth with questions, comments, and above all, stories of misses and near misses.

Third, get your training department or outside consultants to devise role playing scripts that capture real dilemmas that personnel face – for example, the danger that highlighting risks breeds too much caution, and the reverse. I am sure it does; phrased this way there is no clear solution, only a controversial balance level. But if your trainers are smart, they will get a discussion going that shows that the issue often is not risk or caution, but expertise, knowledge, experience. Posing it as risk or caution, as we all do most of the time, and solemnly acknowledge there is no clear solution, may be a cop-out. The person with the best training, experience and knowledge is going to say “I know it looks risky, but under these weather conditions and given the degree of slope and underbrush, it is not.” Or, “This might be considered being over cautious, but there is a lot of information that we don’t have as yet, and will have shortly, and the two courses we have to choose between – a risky one and a cautious one – are not so different that we can’t shift from the cautious one to the risky one if the information coming favors that.” Such training sessions should emphasize the role of expertise, rather than guts.

Other role playing sessions – which are vastly more effective than pamphlets or speeches – could deal with the problem of being the messenger with bad news, of assuming your boss either knows of the impending wind shift or will resent your doubting that he does, so you keep quiet. Or the check list problem in emergency situations. Or, the vital matter of building as much of a team out of unfamiliar people as

you can while being transported, and assigning responsibilities to individuals (Jones, you look like you can run fast; would you be responsible for doing X if we need it; and Smith, from the looks of those hands, you could be the point man for clearing a path), so that the team members have some sense of structure, the roles of each person, and some characteristic of each person to aid them in watching out for each other, noticing problems and so on.

Finally, the bulk of a safety culture is going to reside in responses at the lowest operative level that become almost automatic, unreflective, “just the way we do things here.” Dramatic role playing is effective for highlighting expertise in dilemma situations and for overcoming conventional responses to authority. But it is not likely to enhance responses that contribute to safety in the daily routine that front line employees face. Here, in the nitty gritty of repetitive challenges to alertness and communication, I am afraid, we may have to go to the classroom. We may have to use some social science research into the topic of cognition, or how we think, to explain to workers why it is so hard to embed into our response patterns the recognition that we are seriously limited in our reasoning and observation abilities. Let me dip down to the bottom of the organization, and give you some habits that are safety enhancing, and thus would be what we would want to be in our organizational culture. For example, it could be the habit of a crew leader to look at the sky and mentally check her sense of humidity and air pressure, to see if the light northerly wind could possibly shift to a strong westerly in the next two to three hours, requiring her to shift the task a bit and deploy the crew a bit differently if there is a chance of a shift, and tell them why she is doing this. Or to shout to a nearby member “Keep an eye on those high clouds; we really need to be sure there is no wind shift this morning;” or ask a crew member to remind her in an hour, thus bringing in others as well as providing a check on your own fallibility. It is like the habit of driving defensively when you have to drive fast; conjuring up an image that says “everyone on this road feels they are late, because of weather or traffic density, and they are going to do risky things, so I have to expect that.” That is a part of a safety enhancing driving culture, and we need much the same.

Another example: The leader makes a habit of saying to himself: “This is a tight squeeze, and we have no time to waste. I know that when this happens I will cut my radio transmissions to the bone, and the person at the other end will sense the pressure and do the same. Thus I am likely to make big assumptions, for example that they understand my inquiry fully or that I am sure they are talking about just my sector – which is fairly unique at the moment – or that they know I want type B equipment rather

than the usual Type A. In this tense situation I have to be sure they repeat my request or my information fully, thus exposing any wrong assumptions they quite reasonably might have, and I have to repeat their transmissions to make sure we understand one another and to more firmly lodge it in my memory.” A bureaucratic order to repeat transmissions is not likely to do this; whereas drills, in the field, emphasizing the repeat of transmissions will help a lot, because it forms a habit. But habits are not enough – though they are the bedrock of culture – because we may not listen attentively enough, because we expect the other person to be attentive or we expect that we will be. (The social psychology of cognition is full of good research on this topic, which can be dramatically presented.) So, on top of the habit of repeating transmission – which is not one that your personnel have, I believe – we need the mental check list that says, “Just because this is a tight corner I have to turn, I am likely to not pay full attention to the repeat transmission – mine or the other’s.” So we need to call forth the mental set that says, “Slow down, be deliberate, don’t be rushed, it is the kind of situation where each party will jump to conclusions.” Getting that mental set is not part of bureaucracy, but of culture.

To summarize, then, we have to start with you: repeated, unobtrusive behavior that reinforces the idea that a safety enhancing culture is one whose time has come. Then we have to go to middle management with enhanced safety positions, drills, briefings, and above all communication about the things that often go wrong. With that we make partnership with the operational level, asking for their experiences and broadcasting them across the organization. And finally, we have to make crew leaders and the crews more informed about the cognitive limits that they have to learn to be aware of and overcome. No posters, slogans, dull lectures and admonitions to work safely. Instead, the stuff of culture – routine, repetitive, learned behavior.