The Farnsworth Paper Works Case: Requesting a Permit from the Department of Natural Resources

Part 1

What could be more beautiful than September in the state of Washington, you think, as you gaze out of your office window at Farnsworth Paper Works, Inc. The sun hangs a bit lower in the sky now, even at 10 o'clock in the morning. The location of the paper mill almost makes you forget that you are at work. The mill sits beside the Nargansett River overlooking Tituba Lake and is surrounded by 1,000 acres of natural forest. Quite a sight! You are happy working here as an environmental engineer—first, because you have found a good career in Washington, applying your hard-earned forestry degree, and second, because you believe in Farnsworth. This company has done its best to maintain a clean plant operation that is nonpolluting and safe. And you like Sol Weidman, your supervisor and area manager of Environmental Engineering, who, as you can see by glancing over the front partition of your workstation, happens to be making his way to you now. Sol is scratching his head and mumbling to himself. He starts talking to you even before he reaches your office door.

"We've got a little problem here that I think you can help us clear up."

"What is it?" you ask. You have learned in working with Sol that this chief engineer likes to talk through his thinking on a problem before he assigns projects, so you are prepared to listen for a while.

"The DNR is giving us a runaround."

"The DNR?" you say with surprise. It is not like Sol to complain about the Department of Natural Resources. Farnsworth has always had cordial relations with them. The company runs a clean operation and meets all pollution control requirements without any trouble.

"Oh, our regional DNR office[1] seems to be stalling on a permit to let us dump our fly ash[2] on our landfill. We've got 40 acres just waiting to take it."

"Hmmmm. Why has this problem cropped up just now? We've produced plenty of fly ash over the last ten years. What have we been doing with it?"

"Well, for the last couple of years we've been letting it pile up behind Shed 3A. That was supposed to be a temporary solution until we figured out where to dump it permanently. Well, the stuff's been out of sight there, and so it's been out of mind. We're at a critical point now. In a few months, there will be no room to store more ash behind the shed. Besides, we'd like to clean up that area. We've worked hard not to disturb the landscape around the mill, and we want to keep it that way."

"So what can we do?"

"Well, we could sell about half of what we produce as low-grade fertilizer; we'd have to pelletize[3] it first though, so it can be handled easily. That'd get rid of about 500 tons a year."

"Why not pelletize and sell all of it?"

"The rest of the fly ash is unsuitable to recycle this way. It's mixed with fused sand that's been cleaned off the furnace grates. That stuff can't be pelletized. I think we could get DNR approval to pelletize and sell the good stuff in small quantities as garden fertilizer. It's similar to potash, which is used widely as a fertilizer now." Sol stops to think a moment. "But we haven't bothered to propose this to the DNR yet."

"Because we'd still have to get rid of the rest."

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[1] Farnsworth is regulated by the DNR office for Region No. 4. This is one of four regional offices reporting to DNR headquarters in the state capital. Each regional office is managed by a degree-holding environmental engineer. The state offices, officers, and laws described here are typical of many states and do not refer to real offices and officers in the state of Washington.

[2] Fly ash is the noncombustible inorganic residue remaining after wood waste has been burned. Fly ash is entrained in a gas stream and includes such substances as ash, cinders, and sand. In paper mills, fly ash is the by-product of wood waste burned for heat.

[3] Pelletizing is a process in which fly ash is mixed with enough clay (for example, bentonite) and water to cause particles to stick together; then the mixture is agitated to form round pellets or extruded through a punched plate to form cylindrical pellets. Fly ash that is not pelletized has the consistency of fine flour and cannot be spread without creating a dust hazard.

"That's right. We won't make much off the fertilizer sale, and we'd still have the disposal problem. I'd like to dump that useless stuff on our 'back forty.' A few years ago that's what we used to do. But the DNR won't permit it now."

"Why?"

"Our back lot is a permeable landfill. Back in 79 the state gave it a Type III classification. That was in response to a DNR investigation prompted by local homeowners. Some people in Ossentuck were using the lot as a general dump, throwing metal, trash, tires, and whatnot into it. And, of course, we were dumping our fly ash there. After some residents complained, the DNR told the city to give citations to residents who dump there and they told us to haul our fly ash to a Type II fill. We've been storing it behind Shed 3A ever since, and, of course, that site's not a Type II landfill."[4]

"Hmmmm. I think I'm beginning to see how all this fits together," you say. "We got cited during a general crackdown. Of course, that could have happened to us whether the residents complained about the dump or not. Up to a few years ago environmental protection agencies weren't too concerned about where anyone dumped organic substances, like wood products. But now they are . . ."

"That's right," Sol interrupts. "The leachate[5] from fly ash is high in alkalies,[6] and we've got Tituba Lake sitting right behind us. The DNR is concerned about drainage into the lake, even though they shouldn't be; we've got land surveys which show there is negligible groundwater flow out of our landfill area."

"Oh, yes?" you note with interest. "What kind of data do we have?"

"Well, two months ago, we hired a consulting firm, Terra Engineering, to analyze the area surrounding our landfill. They drilled test wells at several points between the landfill and the lake and found no detectable level of alkalies in the groundwater, even though we'd been dumping the fly ash there for years before the DNR put a stop to it. The firm also did a hydrogeologic study of the area which showed that the groundwater flows away from the lake. Even if there was anything leaching from the ash dump, it wouldn't go into the lake."

"I assume we sent that data to the DNR."

"Of course, but they didn't act on it. Yesterday I called Vern Fenkel, our regional DNR manager, to check up on it. He says the office is 'taking it under advisement.'"

"What's that supposed to mean?"

"It means they're sitting on it. You see, a lot of the environmental engineers working for the DNR take a very conservative approach to these things. They don't want to make a decision now and be caught with their pants down later. DNR engineers don't want some environmental group to locate an ecological hazard and pin it on them."

"Well, what kind of risk are they taking if they okay our dump?"

"That's what's so frustrating," Sol answers as he suddenly starts to pace back and forth. (You can tell that he is ready to get to the crux of the matter now.) "They are taking absolutely no risk at all!" he says with a great deal of emphasis. Suddenly he walks back to your cubicle and impulsively sits down at your desk.

"This is what's going on," he continues. "As can be expected, the DNR engineers are following state law to the letter. Where state law isn't clear, they are proceeding with extreme caution. No one wants to make a move until someone else does. We've got state law on our side here; the state public law says nothing about dumping fly ash in unprepared landfills. Plus we've got our land surveys. The only reason I can figure that Fenkel is keeping us from dumping ash in our back lot is because some other regional manager won't let some other company do something like that. And that's what we're up against."

"So what are our alternatives?"

"That's what I wanted to go over with you," Sol answers. "I've got an idea, but I'd like to see if you see it the way I do." Spreading his hands on your desk, he begins laying out his plans. "If worst comes to worst, we can simply conform to what they want and have our ash hauled away to a Type II landfill," he begins.

"But that'd be expensive," you counter.

"Of course. I bet it would cost us $25,000 a year to cart the stuff away. The nearest fill with a Type II permit is 35 miles from here."

"What about converting our landfill to a Type II fill?"

"We could, but that would be costly too. We'd have to put a clay cap on it and start over." Sol gets up, shaking his head as he speaks.

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[4] A Type III landfill is any unprepared land area used for waste disposal. A Type II landfill is clay lined and otherwise prepared to keep substances from filtering out.

[5] Leachate is the product which is removed from a substance, such as fly ash, when water percolates through it.

[6] Fly ash contains 10–25% alkalies measured by weight as sodium oxide (Na_2O). High levels of alkalies in soil can raise the groundwater pH (a measure of the acidity or alkalinity of a solution). If groundwater with a high pH runs into a lake, it could raise the pH of the lake, encouraging algae growth and cutting the oxygen supply for fish.

"The point is, I don't think we should have to do that; we've got the evidence that says we can dump it safely right here."

"But you've already said the DNR won't approve it."

"I also said that's because some other regional manager must have said 'no' to someone else. But," Sol adds animatedly, "I have a hunch that there's an engineer somewhere in our state regional offices who has let some other company do just what we want to do—sell some of the ash and dump the rest in the back lot."

Sol smiles broadly at you, clearly anticipating that you can see what is on his mind.

"And you want to know what company got permission to do that and from whom," you respond.

"That's right."

"And you want me to find that company."

"Uh-huh. And this is how you could go about it. Call the DNR in Olympia and get a list of all those companies in Washington that burn wood products for power or heat[7]—you know, do a survey of who generates fly ash, who dumps it, who recycles it, whatever. Find out what their permits to dump say."

"Right," you say. "That should be no problem. When do you need the data?"

"I'd like it tomorrow. I want to keep pushing Fenkel so he knows we're not going to let this go. Whatever you find out, put it on a page. I'll use your memo to support my written request for a permit to dump, say, five to seven hundred tons of ash on our landfill each year and sell the rest as fertilizer. They know our situation is getting critical, and a plan to sell almost half the ash instead of dumping it should please them. I'll just tell them exactly what we want, why we should get it, and ask for an immediate response. Your data should give us the edge there."

"Okay," you say. "I'll try to get the information you need by tomorrow."

For the moment you try to forget about how you are going to find out "by tomorrow" how all the other companies in Washington that produce fly ash get rid of it. You also try to ignore how you are going to handle this little investigation with all the other work you already have scheduled.

"If my hunch is right," Sol continues, interrupting your pondering, "you'll come up with just the information we need."

"I'll try," you reply.

"Oh, I'm counting on you," Sol say as he heads back to his workstation.

You decide not to waste any time and begin your investigation by calling the main office of the DNR in Olympia. Mary Rollofs of the DNR Public Information Office refers you to the Northeastern Council of Washington Governments. Cynthia Balinger of the council's Public Services Department gives you a list of 14 companies that burn wood waste for power or heat. You decide to call those companies that seem likely to produce as much or more fly ash as Farnsworth.

Your first call is to the Richter Corporation, a packaging company in Kent which is in the same DNR region as Farnsworth. Jim Fleshman, their chief environmental engineer, is immediately helpful.

"We're in the same boat as you," he tells you. "Fenkel wants us to dump our fly ash in a Type II fill. We've been dumping it in any nearby fill that will take it. We also give some away as fertilizer to locals who ask for it. Haven't thought of pelletizing it and packaging it for retail sales though."

"What's Fenkel done about it?" you ask.

"Well," Fleshman responds, "nothing so far. He's pressuring us to haul it to a Type II fill. We've just declined. There've been no complaints from residents near the landfills. We have no guarantee how long he'll be willing to let us keep on as we have been, though."

You thank Fleshman for his information and jot down some notes in your phone log. You find it quite interesting that Fenkel is letting the Richter Corporation do what they want.

You continue to go down your list making calls. By 3:00 P.M. you have called the last company and have typed up notes from your phone calls. (See Appendix A, Phone Call Notes.) It looks like Sol was right. Different DNR engineers in different regions have given companies permission to dispose of fly ash in different ways. With your information as part of his proposal to the DNR, Farnsworth should have a good case for taking care of the fly ash on their own property. You quickly write up the memo telling Sol of your findings.

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[7] Companies that might burn wood waste for power and heat include paper mills, sawmills, and particle-board plants. Wood waste can be burned for power to fire steam boilers. It can also be burned to provide heat for production processes. For example, heated gas from the furnace flu is mixed with cooler air and used to dry such products as bark, lumber, veneer, and wood flakes.

Part 2

This morning you drop off your memo at Sol's workstation as soon as you come in. You had to type it yourself at home last night, but this is not the first time you have had to handle a rush job this way. No sooner do you sit down to read your in-box than Sol gives you a call and asks you to come down to his cubicle.

"Just read your info," he says as you walk in. "Well, we don't have much, but we do have something. This might be enough to give us the edge."

"I think it might," you say, wondering what else Sol has on his mind.

"I'm glad we had the chance to discuss this whole problem yesterday," he continues. "I'm not going to be able to write that proposal to Fenkel. George Flaherty in our Products Engineering Office called late yesterday afternoon and has got me working on a rush job. Seems we're going to introduce a new paper products line, and he's concerned about the chemicals required to produce it. We've got to make sure we can dilute them and run our pulp-processing water into the Nargansett River with no problem."

"I see," you say, guessing that Sol is going to ask you to write that proposal for him.

Sol begins searching quickly through his files as he talks to you. "I've got that land survey which Terra Engineering did for us right here someplace, and you've got this data on what other companies are doing. You also understand that ideally we want to pelletize maybe three to five hundred tons a year and dump maybe five to seven hundred tons. We want permits to do both." Sol continues searching through files for the Terra Engineering land survey.

"I suppose you'd like me to write that up as a proposal for Fenkel," you say, again anticipating his request.

"I'll be here to go over it when you're through," Sol says, acknowledging your tacit understanding of the assignment. He spends a minute more thumbing through his files and then suddenly slaps his forehead. "I gave that land survey to Janet Ridley in the Main Office. She wanted to see it for an article she's writing for the company newsletter on our use of outside consultants. Look," he says, gesturing toward you, "you won't really need this land survey to write the proposal. Simply give an overview of the conclusions as we discussed them yesterday. Fenkel's seen the survey before, and, of course, I'll append another copy to this proposal."

"Fine," you say.

"Keep the writing simple," Sol advises. "Those DNR people shuffle through a lot of paper, and we want them to get the message fast."

Sol tells you about a few other matters he wants you to take care of while he works with Flaherty and leaves you to write the proposal. Well, at least you have the opportunity to follow through on this project and to make all that phone calling pay off. You begin planning your proposal by sketching out a discussion that will support the major requests you make of the DNR. Then you decide how you will work in the information from your memo to Sol. With that figured out, you think you are well on your way to getting the proposal drafted before the morning is over.

ASSIGNMENT 1

Write a proposal to the DNR requesting a permit for future disposal of fly ash according to the plans you discussed with Sol Weidman. The document will be addressed to Vern Fenkel, Manager, Department of Natural Resources Region No. 4, Fredonia, Washington 00000. It will come from Sol Weidman and you will be named after "Prepared by." Your firm's address is Farnsworth Paper Works, Inc., 20 Tituba Lake Road, Ossentuck, Washington 00000.

APPENDIX A

Phone Call Notes

1. Richter Corporation--Jim Fleshman--In the same boat as we are. At this time they go to any nearby landfill and they also give it away as fertilizer. However, the DNR regional (Fenkel's office) wants them to go to a Type II landfill. They have declined. So far so good.

2. Ashland Products--Al Banti. Landfill the ash from a bark-burning boiler. Were told by DNR that a Type III was OK. Received a letter confirming less than 2 months ago. Produce about same amt. of fly ash as us. Ashland is in Region 2; Julia Lipsett, Manager.

3. Abco Cleansers--do not burn a significant amount of wood.

4. Joe's Sawmill--Springfield--two-bit operation.

5. Maisle's Sawmill--Allentown--ditto.

6. Freedom Power Co.--Richard Fowler. They have a current permit to dump wood fly ash; they compact the ash before dumping it on unprepared land (their property). About 300 tons per yr. DNR Region No. 3; Francis Wong, Mgr.

7. Friedlanger's Construction--No Wood.

8. TWP Wood Products--small business, not comparable.

9. Valley Forest Products--our region; fly ash hauled to Type II in Four Rivers. Maybe 1000 tons per yr.

10. Smith-Mentag--Ossentuck--Frank Angelo--Chief Env. Engineer. Run ash to dredged-out pond. This is a municipal landfill (Type II). Mostly coal ash, but some wood ash mixed in. Monitoring of groundwater is going to start at the landfill in the near future. Fenkel requested this; Bass Lake is nearby.

11. Richland Co.--our region; dump same amount of fly ash as us in a Type III landfill. Coal ash only. Not like ours. Coal burning companies have no trouble disposing ash at any landfill type.

12. Druger and Hayes--plastic tableware; no wood ash; ash from polyethylene.

13. Welsh Container Corp.--nobody in who knew anything.

14. Pittman Products, Inc.--Waste Control Department--Henry Kopp, Supr. They will seek approval to pelletize some fly ash as low grade fertilizer from DNR. DNR has so far indicated there will be no problem with the fertilizer approach; nothing in writing though. If it does not work out, they will dispose of all ash in local municipal landfill (Fowlerville--Type II), as they're doing now. They produce as much fly ash as us. DNR Region 1; Elmore Blanchard, Mgr.