

Interview with Mike Lawrence, Interview 2.

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Transcriber: Susanne Starkweather.

Begin Tape 2, Side 2. 1

MODERATOR: March 28th, 1996. I wanted to start, as we look back after ten years, what kinds of things do you see as significant things about N Reactor that maybe we should remember?

LAWRENCE: N Reactor always impressed me in that it tried to do many things. It was the first and only U.S. production and power reactor.

And that, I think, was mainly due to a lot of effort by local Tri-Cities, people like Glen Lee and Sam Volpentest, who in their effort to attract the Atomic Energy Commission to put the reactor here, wanted to sell it for more than just plutonium but also power. And so it was a real engineering feat.

But because it was so complicated, it also had lots of little gremlins running around causing problems in terms

LAWRENCE: of its operability. And then as the production requirements went down, it was very fortunate that it was a power producer because it was able to go into a longer operating mode and make fuel-grade plutonium and still provide power.

So I think it was a real pioneer in that sense. It was appropriate, also, that it was in the Northwest because it was a pioneer.

But I think, also, though, you look back when Chernobyl occurred, that's probably the single most riveting event in my time here at Hanford was after Chernobyl, when everyone had such serious concerns about the Chernobyl reactor, what the environmental impact would be for Europe and for the world, they really couldn't get to that reactor.

The only thing they could get to was Hanford and the N Reactor. We had people here in droves.

MODERATOR: It came out pretty well in the reviews.

LAWRENCE: Well, it did. But in terms of comparing it to Chernobyl and in terms of what

LAWRENCE: happened at Chernobyl and whether it could happen here, I think conclusively we showed that because of the key design feature of the negative void coefficient, which is the technical term, what happened at Chernobyl, specifically, couldn't happen here.

But then it led to oversight and review of DOE facilities that hadn't occurred before. And I think it is culminated now in the review that the Department had looking at independent oversight by the Nuclear Regulatory Commission, Defense Nuclear Facilities Safety Board, and someone else.

So in its own unique way, N Reactor was, again, a first of a kind and a trendsetter because it started that independent oversight.

MODERATOR: That is a good example of our ability to balance advanced technology, proven technology; and then they were able to build it and meet schedule and they could operate it safely for a long time.

And it seems that today we have

LAWRENCE: trouble incorporating new technology and are not willing to take the potential risks.

And I wonder if you have any thoughts on what it takes to incorporate new technology in DOE to work, in general, in society.

LAWRENCE: Well, it always takes a balance. You want to use the best technology available. And new technology can reduce cost and can reduce exposure and all.

But there's always a certain amount of risk to it. And that balancing the risk is something that, I think perhaps in the past, we may have been able to do a little bit better because we weren't always faced with an endless list of what-ifs that can paralyze you.

Leaders have to step up and say, "Okay. I understand. Yes, there is a risk; nothing is risk free. But I have judged, based upon the best analysis, that this is an acceptable risk and we'll move forward."

If you allow yourself to become

LAWRENCE: paralyzed in the decision-making process, you don't make any progress.

MODERATOR: Which kind of ties into this question as your role in opening up the site and N Reactor to the public. And N Reactor kind of was right in that same time frame, more so with the release of documents as far as with N Reactor, Chernobyl 038 .

And so then you have that balance again of listening to the different stakeholder facts and trying to make your decision and yet be sensitive to meaningful involvement.

Do you have any thoughts on where the whole stakeholder involvement trend is going?

LAWRENCE: Well, I think it's fantastic. And I'm very lucky and fortunate people give me some credit for opening up the site.

But I think it was a no-brainer in that it's the right thing to do. The democratic process requires people to be involved in the decision-making process.

Unfortunately, back in the '70's

LAWRENCE: and '80's, people didn't have the facts and the data to be involved in the decision-making process, people didn't have any idea of what was going on at Hanford.

So it didn't take a genius to realize you need to provide the people with more information. That a lot of what was going on at the site no longer needed to be classified, and just open that process up.

And I think what's going on today, that Secretary O'Leary is famous for, is really the only way you're going to get sensible decisions is by making people aware of all the facts, all the data, so that they can see there's no simple solution; there's no risk-free solution.

You say, "Don't do this, then you're going to have to live with something else for a longer period of time." So I'm strongly in favor of it.

But it still boils down to government officials having to make a decision; because you have 60 percent in

LAWRENCE: favor and 40 percent against, and it takes some hard decisions.

And those decisions can be made and they are being made. But it does require someone to step up to the plate and take a swing at it.

MODERATOR: I get the impression from earlier years that the oversight, at that time AEC, over the contractors, maybe was less, or at least we've kind of gone through this wave of, "We need more oversight, we need less oversight." And being with a contractor, sometimes we think that we have too much oversight.

Have you figured out since you've been on both sides of the fence, what the proper oversight is of contractors?

LAWRENCE: Well, to have proper oversight, you have to have sufficient and qualified people on both sides to do the job. The government never can and never will have all of the best and the brightest scientists go out and operate the facilities, do all the designs.

But they do need to have enough

LAWRENCE:

people to do the oversight, to look at a design, to look at a plan, and to ask good questions, challenge those people; but then not get down on management.

And I'm real pleased with the fact that there are more DOE people here, now today than there were when I was here. Because we were always behind the curve in terms of having enough people to really be out on the site when we needed to be out on the site or to be reviewing the plans and the programs.

The bulk of the people were necessary for doing a lot of the administrative work and budget work, which is essential, and does require government people.

But on the other hand, in terms of asking the technical questions about, okay, what is in that waste tank? What is in this solution? Why is that hydrogen being formed? We were short staffed in those days.

And I give a lot of credit to the people who were here at that time,

LAWRENCE: because they had to do an awful lot of work, putting in long hours to get the job done.

But getting back to your question, it requires a balance; and it requires qualified people on both sides. And if you try to do it with either too many or too few, you're not going to have the proper balance.

The reason I say too many, is if you've got too many people looking over your shoulder, they can come up with an endless list of questions and the contractor never gets the job done.

If you have too few, there's no counterbalance. No one's asking questions, and maybe the right priorities aren't there.

So, I guess I gave you a roundabout answer; but it's not a simple question to have to deal with.

MODERATOR: Have you read the 077 ?

LAWRENCE: I've seen part of it.

MODERATOR: Seen part of it. Did you think the parts you saw were fair and accurate?

LAWRENCE: Well, the parts that I read where he attributed motives, I thought were way off-base. And I can only talk specifically to those things that deal with me or for my family in conversations that took place, you know.

There were ulterior motives that were put into that book that claimed that we were trying to do certain things which I know full well and good that they weren't, those weren't the motives.

The motives were to trying to get things in a safe mode and operate efficiently, and we weren't trying to pull the wool over anyone's eyes.

It makes good reading, perhaps. It makes sensational reading, but it's not very accurate in that regard.

MODERATOR: What kind of things do you think we can learn from looking back at the N Reactor experience that might help us today in these various areas we've been talking about?

LAWRENCE: Couple of things about N Reactor coming to mind. One is that it's very, very

LAWRENCE:

true when the critics say that the reactor was neglected in the '70's, it was.

It wasn't producing material really for the weapons program, it was for fuel grade. And the type of upgrades and improvements and continual attention to the safe operation, it just didn't have the level of support for that, that it needed.

Actually, it started in President Carter's term. But then when President Reagan came in, money was put into the reactor to upgrade it to improve its safety features and operating efficiency. And they were very, very successful.

Consequently, when Chernobyl occurred, the reactor was able to withstand scrutiny and come out very, very well.

If that had of happened before those upgrades, we would have been in serious difficulty because it wasn't that well along.

LAWRENCE:

But the N Reactor, I think, gave me a real example. And I'll give you a vivid image of the importance of openness in making the public part of the process.

After Chernobyl occurred, about two days after, the entire lobby of the federal building was filled with every television network, wire service, CNN; they were all down clamoring to do a story on N Reactor.

And I'm on the phone to Washington to where I said, "Look, we've got to show these people the reactor. We've got to talk to them about it." And they said, "Don't talk to them, don't say anything."

And I said, "That's not an option. They're interviewing each other, they're going out there interviewing people on the street. A story's going to be written. It can either be based on fact or it can be based on fiction. But we've got to do that." And they did agree.

We went out and got a bus, took all these reporters out to the N Reactor. And they had an image, a visual image in

LAWRENCE: their mind, I'm sure it was like a quansit hut, or a little tin building with a reactor boiling away inside.

And yet when we took them out there and we actually were able to open the door to the confinement and they could see the three- to four-foot thick concrete walls, they came away and wrote much, much different stories than they went out there with.

They said, "Yeah, there's a similar reactor; but, boy, this is a substantial building." It wasn't perfect. But it showed the value of being open, showing people what you've got and involving them.

And N Reactor, if nothing else, opened the door on DOE facilities and DOE operations that will never be shut again. And I think that's a real contribution at this point.

MODERATOR: Well, that issue, it talked about letting it go in the '70's, because, you know, I think people assumed it probably would be shut down and why put money into keeping

MODERATOR: the facility. That's a question of
114 and everybody's basis on
maintenance.

LAWRENCE: Yes.

MODERATOR: I guess it's just the cost of doing
business with high-tech facilities that
have potential 116 .

LAWRENCE: And really the maintenance, the problems
in those days were really with its
operability. It would be shut down more
often than perhaps it needed to be. The
safety systems continued to work, but
they weren't upgraded; or improvements as
they were identified weren't really made.

And, you know, that's not any one
particular person's blame or
organization's blame, you know. Congress
has to approve the funds. Where was the
oversight? Where was the push to get
that? A lot of people share in that.

But, ultimately, it was recognized
that when the reactor was going to be
making material that was deemed necessary
for national security, national defense,
the money was there and it was able to

LAWRENCE:

be upgraded. And those upgrades served it well.

I remember the thing that always was of great concern after Chernobyl, was the reactor was operating when Chernobyl occurred. And the fear was, okay, if for any unplanned reason it went down, it may never come back up again.

And prior to that, we had been having some difficulties with -- it's called fuel failures. Now, that sounds like a terrible thing. It is in terms of operational efficiency, but not in terms of safety. But the reactor is designed to cope with it very, very easily.

But we were very, very concerned that maybe a reoccurrence of a fuel failure would cause the reactor to go down at an unplanned time and we knew that would be very difficult.

And the reactor was then flawless. We didn't have any fuel failures that went through and operated like clockwork. Until the decision was made, we immediately no longer needed the product.

LAWRENCE:

If you did need the plutonium and the power was never the justification for the reactor, it was a byproduct; it was never the justification. When you didn't need the plutonium, it was going to shut the reactor down.

And that was probably one of the most difficult days and announcements I had to make, was when we went out, Bill Jacoby of Westinghouse Hanford Company and myself went out.

I got the agreement from Washington before it was announced back there that they'd give us two hours advance notice so the workers could hear it first and not hear it on the radio, not hear it on the news. Not hear it by anyone gloating that they had shut the reactor down.

And we did go out there. And I remember they had a truck set out. We got up on the flatbed and told the workers of the decision. But they took it as well as could be expected. And that was a very difficult task.

MODERATOR:

I had just moved here, and about a month

MODERATOR: later BWIP shut down. N Reactor shut down ¹⁴³ .

LAWRENCE: Yeah. We had a school levy going on at the same time. And that was one of the only school levies, at least in those days, that had gone down. Because it was right after, I think, a senator had announced it was going to shut down. It was before the formal announcement.

And the levy went down in defeat. But we put it back up a couple of months later and it passed, and the schools were supportive.

MODERATOR: One of the distinguishing characteristics of N Reactor was this partnership with the supply system. And it seems that the early '60's was right about when the diversification kind of movement from Hanford really got going.

Do you have much thoughts in the way of this partnership that the government and private industry ran, how that's developing?

LAWRENCE: I think it's a great way to go. And it's the balance. There are some things that

LAWRENCE: are government responsibility. And because the risks are too great or not definable, that the government needs to do. But there are other things that private industry does very well.

And I think that Hanford's always been very interested and in the forefront of trying to diversify to make this community less dependent on the federal government. And that's a necessary thing.

Because as we can all see, as the site gets cleaned up, there's going to be less federal jobs here, federal money here; and that's going to require other activities.

I happen to feel it's a great place to live, to raise a family. And I wish the community well in attracting other business here.

MODERATOR: Any other things you think we should --

LAWRENCE: I guess not. I guess that pretty well covers it.

Tell me a little bit about your formal ceremonies on Saturday.

MODERATOR:

Well, Saturday, Gwen's going to just get up and kind of talk about CREHST. That's the new name here. And where they're going.

I'm going to, then, talk about why we're doing this project. One, we're doing this project is to comply with the National Historic Preservation Act because Hanford is an important historic site. N reactor is an important part of Hanford site.

And so before they even kind of demolish the facility and take it all down, there's some requirements to kind of document the history and preserve some records and things like that. So that the story's told that can be told.

So I'll talk about what that is; and I'm trying to bring in, it isn't just history for history's sake. We can learn some things or it's useful to remember some of these things, like you've been talking about.

And then Sam was going to get up and talk about getting Kennedy here, and.

MODERATOR: We'll show that film because it's a great speech. You probably haven't seen it for awhile.

LAWRENCE: I haven't, no.

MODERATOR: It's really a good speech.

And then John Wagner's going to talk after that, on kind of the different themes at Hanford and how they're reflected at N Reactor environmental ¹⁷⁷. It was designed that way to stop putting the contaminants in the river.

And the partnership themes of the Supply System and the new technology and balancing the technology and getting it done.

I mean, we did design a new kind of reactor, and we made the schedule and ¹⁷⁸. And it operated safely. And the whole public involvement.

And then our Congressman, Doc Hastings, is going to get up, who has been kind of the driver on the federal expenditure and need to privatize.

So we're hoping that a lot of the

MODERATOR: former workers will come in and kind of get the word out of this effort. And I'm trying to bring in more of what people remember, as well as the documents, ¹⁸³ documents.

LAWRENCE: They can be kind of dry.

MODERATOR: If you can't trust them anymore, really, then, not the trust, but I mean, they don't report everything.

LAWRENCE: Yeah. I can remember ¹⁸⁵ the purpose of the balance there, too. And ¹⁸⁶ is also interesting to talk to them.

LAWRENCE: Has the newspaper run anything about it?

MODERATOR: Yeah. They've been real good. We had a front-page story a couple of weeks ago or a week ago. And I hope that they write more on the radio ¹⁸⁸ .

LAWRENCE: I guess it was Jim Jessernig's father who was on the radio, perhaps. I think that's the case. I'm trying to remember.

Because I remember someone always used to point out, there's a picture of Kennedy that was up on the wall in the manager's office. And they'd always come.

MODERATOR: When did you first get here?

LAWRENCE: I came here in '84.

MODERATOR: 192 .

LAWRENCE: From '84 to '94. So I've been away as long as I was here. It's hard to believe that it's been six years ago.

MODERATOR: Well, we've had a couple of years before you gave it up?

LAWRENCE: Yeah. '86 was a God-awful year. I look back on every month, it seems like, at least in the first half year, there was a major event that had an impact on Hanford.

And interestingly enough, the first one was in January when the Challenger exploded. And I remember Mike Calbit running in and saying, "Turn on the television, the Challenger just blew up."

And the impact was, here was something that people had always said, 199 technology. And all of a sudden, boom, it didn't. And it raised questions.

And then in February, we started the whole process on the Defense Waste Environmental Impact Statement, public

LAWRENCE: involvement in it. April with Chernobyl. There was just a whole host of things.

Oh, no, February is when we released the 19,000 pages of documents, that's right. That's right. And then it was in March that we started the public involvement process in the Defense Waste Environmental Impact Statement.

April was Chernobyl. That summer was the sign incidents. Remember where some people claimed that signs were taken down when Governor Gardner first came over here?

Then there were whistle-blower issues. It was a challenging year. And later that year is when the contract consolidation, the winners were announced. 1986 was a heck of a year.

MODERATOR: Well, one of the things we're trying to do is look at this as, a lot of times in the history, either we're talking about all the great stuff or there's a conspiracy and looking for the real story. And so now we're trying to
212 , this is what he did, you know.

LAWRENCE: You be the judge.

MODERATOR: We never did everything right, no one ever does. Some things we were right on; and some things, maybe the requirements weren't as great as they should have been. So what did we get out of it and just learn from all of that.

And I think what we need to learn, is really, ²¹⁷ risk ²¹⁷ kind of thing. And people have this fantasy. This is my kind of theory, but their perception that new technology is some panacea is all upside.

LAWRENCE: What we're doing was new technology. It was the big answer. And then, you know, you can't just say, "Well, I don't want that; bring me another solution." There are only so many solutions around.

MODERATOR: Maybe through exhibits like this or something, people can understand that there's upside and risks they take along with it.

I mean, it's not always going to work out; but we've got to get going on this leadership thing. We've got to

MODERATOR: make a decision and weigh the facts and just get going.

LAWRENCE: One of the early mottos, we had a management retreat here, we came back with a motto: Ready, fire, aim.

And it was just to avoid this problem of never doing anything and always fiddling around. It's probably not a good motto, but it did sort of say, "Look, you want it to be action oriented; you want me to try to get something done, don't just sit around. Make something happen."

MODERATOR: One of the biggest sticky points on all of this these days is the verging opinion on radionuclides in the environment. What some people want is too many.

And the others, it goes in the river, it's diluted; and there is no real health impact. Do you have any thoughts on how we resolve that issue?

LAWRENCE: Again, I still think it's a matter of education. A matter of realizing that everything has some level of contamination, some risk, and not to let

LAWRENCE: people believe, falsely, that there's some risk-free approach that can be taken.

And to try to remove -- The radioactive aspect has a terrible taboo associated with it. And that's understandable when you think about how people have learned about it.

And even what some of the Hanford workers say, they try to impress people with how they deal with this. And that's a mistake.

You've got to recognize it's a hazardous material, and it needs to be dealt with safely and with respect and properly handled.

But people have to understand that when you do that, those risks are minimal and are less than many other things that we commonly accept.

And if we're ever going to solve these problems, we've got to take those small minimal risks to get the job done. So it's education again.

MODERATOR: Do you think new technology is here to

MODERATOR: better --

LAWRENCE: Oh, absolutely. I mean, maybe not in power generation. Hopefully, we won't need it for weapons. But in terms of medicine, in terms of industry, it's phenomenal.

The cures in the medical techniques and treatments that take place utilizing nuclear techniques right now are phenomenal. And I think if you ever tried to take them away from the public, there would be an outcry.

Maybe they don't recognize it. Maybe it's just as well that they don't recognize it. But on the other hand, nuclear technology is very, very much a part of everything we do today. And it's not going to change.

(End of Tape 2, side 1, end of interview).