Fairchild Oral History Panel: Manufacturing and Support Services

Fairchild@50 (Panel Session # 2)

Participants:
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Moderated by:
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Recorded: October 5, 2007
Mountain View, California

CHM Reference number: X4208.2008

C.E. “Ed” Pausa: We are here today to talk about Fairchild's rich manufacturing history and our various roles in that history. The six of us on the panel have been involved in Fairchild's manufacturing operations from 1959 through 2007, 48 years, across five continents: North America, Asia, Australia, Europe, Latin America, with a combined total of about 80 years' of Fairchild experience. To get things started, each member of the panel, speaking in order of their Fairchild start date, will take two to three minutes to introduce themselves, highlight their Fairchild history and maybe a couple of related items that might lead to interesting conversation later on. Then we'll ask for your participation via a question and answer format. Okay. To start, for those of you who don't know me, my name is Ed Pausa. I joined Fairchild Semiconductor Corporation in May of 1959 as a production management trainee in the Charleston Road building in Palo Alto and I'm sure all of you know that that building is still there. It's a California Historical Landmark, although it is not in great use. I joined after I'd been studying a couple years in the steel industry at US Steel and three years of active duty in the navy. I must have asked enough embarrassing questions that they put me in charge of one of the assembly lines working with Dick Parker. So, by the end of 1959, early 1960, when we moved into the Whisman Road plant, I was production supervisor of Mesa transistor production and I was just commenting to someone here, “What size wafers did Fairchild start with?” My impression was it was somewhere along three-quarters of an inch or five-eights of an inch How many of you remember that we made Mesa transistors by etching them, by just putting black carnauba wax over the top through a handheld copper mask and dumping them in the etch to expose the junction? During the next couple of years, Fairchild made the transition to the planar transistor, which was a Fairchild invention, and they also went to a product line management organization. So sometime between '60 and '62, I ended up being product line manager of the NPN planar transistor line that made the first Fairchild planar transistor, the 2N1613. About the middle of 1962, I was recruited to go to South Portland in Maine and start up what was going to be Fairchild's first remote satellite assembly and test plant. We started the plant in what had been a Ford automobile dealership. We basically put the assembly line in what had been the service bay. We put the test area in one of the display booth areas and then we used the rest of the display booth areas for the office staff. That plant made what at that time were relatively high speed planar transistors. I remember among our customers were Digital Equipment Corporation, IBM and most notably Control Data Corporation’s Seymour Cray. Because they were always pushing for the fastest switching speeds we ended up having to do all kinds of unique things in testing the devices and that's the first time I ran across millimicrometer or micro millimeters, but, anyway, nanometers. We grew the South Portland operation. We built a spec building, finished it out as a plant, moved into it about 1963 and by 1964 we had 1,000 employees. I guess the only other emotionally memorable event out of all of that was, in November of '63, having to announce to all the workforce, where you could see them all, about Kennedy's assassination. At the end of '64, I got suddenly asked to move to Hong Kong to take over as general manager of what was called Semiconductor Limited, which is slightly different play on a name but it was basically Fairchild's Hong Kong manufacturing operation. That made a slightly different line of products. It made what we refer to as the Glob-Top transistor. Poured epoxy over ceramic bead T0-105 and 106 transistor headers and made glass diodes. When I arrived, it was in basically rented spaces in what I think, at one time, had been either a rubber factory or it had been a paint factory, and then, about a block and a half away, spaces in what we referred to as the Tins Building. We had started construction of a plant right along the waterfront, and at some point in time we'll show you a picture of that famous plant. We did complete the plant during the time I was there. One of my notable memories is that, in the process of constructing that building, and this was high rise, it was 145,000 square feet, I think 14 floors, if I remember correctly, we had a fire during the construction period, probably because we were pushing the contractor too hard to meet his contract date. One of the consequences of the fire was there were some questions about the structural integrity of the building, particularly the floor above the ground floor. So we did some very unique static testing using wheelbarrows of sand, loaded it up to the first floor <laughter> and moved up <inaudible> scaffolding to see if the floor would deflect. I remember Julie Blank being involved in that and

that being very interesting. I continued on there through '66 and, by the end of '66, we had 5,000 employees. Those 5,000 employees were pretty much divided between two shifts. We had a very small graveyard shift because of the way the Hong Kong government interpreted the international labor organization's labor laws. I came back in '67 and was group plant manager with responsibilities for Hong Kong, San Rafael, Korea, Mexico, Canada and that was part of the Fairchild 400 reorganization, for any of you who remember the words Fairchild 400. That continued on for a year and a half or so. There were a number of people who left Fairchild management, if you recall, during that period of time. By 1968, I was director of international operations and I think Tom Bay then was general manager of the semiconductor division. Then, after Hogan's Heroes arrived, I ended up being group director of planning. One of the last projects I was involved in was basically truly negotiating, organizing and getting the Singapore plant started for Fairchild. Again, we started that in a school. We had the assembly lineup on the stage block of the school. I continued there until August of 1969 when I resigned and I joined National Semiconductor. I mention that because, as a consequence, between 1987 and 1990, when National bought Fairchild, I again ended up having responsibility for the Fairchild plants in Brazil, Philippines, Korea, and Japan. How many remember the fact that Fairchild had a plant in Nagasaki in Japan? And I continued in that role through 1990, at which time I retired from National Semiconductor. Now I'd like to turn the stage over to Don Shea and let him introduce himself.

Shea: As Ed said, I'm Don Shea. I joined Fairchild in Mountain View in January of 1962. I was a product engineer. One of my first assignments was to put a device called the 2N918, in Fairchild speak that was a 1211, put the 1211 into production. Just to give you some idea of where we were at that time, the 1211 was probably the first device we ever made where the bonding pads were out over the oxide transistor in the middle, bonding pads on either side, fingers going over to connect to the device. When you think about integrated circuits and everything else today, I suppose they're all made that way but this was pretty unique at the time. Another thing the 1211 had, it was really dinky and we didn't really have the photo resist techniques to etch away a little bit of oxide on the emitter so we could make an emitter contact. So someone came up with the brilliant idea, let's do what we called a washed-emitter process and here some poor soul took each wafer, one at a time, put it in hydrochloric acid, and attempted to etch a little bit of oxide off the emitter. If you went too far, then you exposed the emitter-base junction and all kinds of bad stuff happened. It turns out that normally the only guy that would do it was the product engineer so I did an awful lot of wafers that way. It was not my favorite job. We had a small group, one guy at R&D who was working on photo resist processes, and I solicited his help and he and I, probably within the first six months I was there, converted the 1211 to a normal process where we could use photo resist. Fast forward another year or two and somewhere along the line I got promoted to engineering manager for NPN transistors. I think they called me supervising engineer but I thought I was the manager so it was a pretty big deal. And then we get to 1965 and Mountain View was pretty much out of wafer fab capacity and a decision was made that let's start a brand new wafer fab in South Portland, Maine. I got elected or selected to head up the group, I guess you'd call it, who got this wafer fab in South Portland, Maine, going and then later on we were the engineers and managers, whatever, that ran it. We started out with NPN transistors because that's the area that I knew. I almost forgot to say this and Ed touched on it earlier. This was a two inch wafer fab and that was one of the hookers that management kind of threw at us because my game plan, and everybody else would be the same way, let's take the Mountain View processes that were very good, boom, put them in South Portland. All of a sudden, we're going to have two inch wafers and Mountain View's running about an inch and a quarter so the gas flows were different, furnace tubes were bigger, wafer carriers -- it was kind of a neat experience. We pulled it off. We started making wafers in the summer of 1966. Somebody had an MBO goal. I worked for Jack Magarian and it might have been Jack or it might have been Don Yost but somebody had an MBO goal that we had to make 1,000 wafers by the end of September that year. And, boy, you talk about pressure. You used to get a phone call every day, "We going to make 1,000 wafers? Gonna make

1,000 wafers?" But we did it and the wafer fab went well. Over the next year or two, we moved all of the NPN production back to South Portland and we built a second wafer fab to build integrated circuits. I left in the spring of 1969 and, at that time, we were making RTL, DTL, and pretty much all CTL wafers back there so we had a lot of the logic IC production back in South Portland. Joe, it's all yours.

Joe Malone: Thank you, Don. I'll be mercifully short and untypically brief. I joined Fairchild in August of 1962 on the division staff, primarily to set up a college recruiting program and do some select professional recruiting across division lines. Shortly after that, about a year or so after that, Don Yost enticed me to come into the manufacturing plant on Whisman Road. I replaced Jack Sheets, who many of you may remember, as personnel manager of the Whisman Road complex, which basically was manufacturing support but you also supported everybody else and it seemed like everybody else in the world at that point. I was there for, oh, three or four years, and Ed came forth and recruited me and my wife to go to Hong Kong. So, in '68 or so, we relocated over to Hong Kong, joined the man who's in the front row here, C. B. Lee, who was operations manager of the Hong Kong plant at that time, and a colleague of mine and is here to visit. I had responsibility for Far East industrial relations. I came back in 1969 and had responsibility for the entire semiconductor division as far as whatever they called them, personnel, human resources, et cetera. When Ed asked me to join this panel, I said, "You've got to be out of your mind." I don't do plants, processes or products, you know, I do people. And he said, "Well, that's all right. You're manufacturing support. You supported manufacturing." My response to that was, "In a support organization, if you don't support manufacturing, you're gone." But he did persist. Everything I knew then or know now about wafer fab was taught to me by the man on my left. Standing in my office one afternoon, he went through a whole solid state physics 101 course on a real blackboard with chalk. Taught me everything I could ever know about diffusion depths, epitaxial layers, photo masking and what have you.

Shea: That's because Joe stayed in HR then forever more.

Malone: At any rate, I agreed. I've never been able to turn down operations guys. I'm a patsy for them. So I agreed to join the panel and Ed said, "You know, you've got a lot of stories" and I said, "The problem is, most of the stories I know I can't tell in public." But I do have some. I'll be happy to share them with any of you if any of you want to know how Bob Widlar got to the company, why Jim Diller's in diodes rather than power devices, where Charlie Askanas came from, what happened in Korea when we got our first union organization in the Korean plant. What else? I've got a ton of them, just ask me and I'll tell them later but I'm going to, at this point, pass it on to my friend from Australia, Chris Reardon.

Chris Reardon: Thanks, Joe. I joined Fairchild in '64 as manufacturing manager for Australia and spent three months up in Hong Kong where I got excited because I assembled the first transistor. I wouldn't be able to do it today. I went back and we got into a temporary building until we went out and selected a five acre site. We built a 20,000 square foot factory and started to staff it four months later. As it was a 20,000 square foot, it went up pretty fast. Whilst I was in Australia, we had two attempts to unionize. Then I was transferred to Seoul as engineering manager in '69. I'd been there about two weeks to three weeks, when we had what Joe was talking about, we had a riot. That's a story within itself. With me today is Y. I. Lee, who was the production manager/engineering manager and he was very, very helpful in resolving some of those problems. I then took over the whole factory in 1971 as general manager when Dave Heck was transferred back to America. We resolved the union confrontation and we created a good cooperative environment with the unions, the government and management. One of the first

steps we did was we had seven expatriates. We cut that down to myself and a financial controller, this was Walt Derrington and promoted in-house. Then I got approval to take the original administration organization and move that and build a 7,000 square foot administration building. Then I received another approval to purchase an additional five acres and construct a further 80,000 square foot factory. That also obviously said we'd go from being a one-product assembly line to a multi-product plant. Then I got transferred to Singapore and took over as managing director in '73. Again, we had union problems there. We resolved those problems and we expanded our operations from 45,000 square feet to 92,000 square feet and the workforce from 1,250 to 3,500. One of the things that we did was we built a test operation in Singapore. We designed the factory around the process and that was the first time in the history of the industry that a factory was designed specifically around a process. I stayed in Singapore but I got the added responsibility for Southeast Asia, which included Indonesia as well as Singapore. So now we had combined operations of 92,000 square feet in Singapore, 100,000 square feet in Indonesia and a Philippines subcontractor. Our workforce was roughly then 4,500. So my job in the regional operation was to find and start staffing for that. This is where this gentleman came in and I'm not going to say anything more about Jakarta. I'll leave that up to him.

Curtis: Okay.

Reardon: I came back to the U.S. and Don Brettner, said “Asset management is going to be one of your goals and Connie Pasqua gave me Ted Leno and we set up a selling operation of excess equipment and, believe me, we had a lot. So Don asked me for a goal. I popped a number out, which was $2 million worth of sales that year, and then, after I'd said it, I realized I made a mistake. I said, "How much did you sell last year?" He said, "Nothing." So I was trapped into that one. But, before I left, we had sold $1.7 million worth of capital equipment. And that terminated my life with Fairchild. I resigned as an employee of Fairchild in '77. So now I'll pass you on to Mercer.

Curtis: Thank you, Chris. I'm Mercer Curtis and that's Mercer Curtis, Jr., not Mercer Curtis, III, who has been getting all kinds of notices, you know, but that's okay. I joined Fairchild in 1966 and I joined on staff to Jim Stengle who was head of the commercial test and finish department. When I interviewed, I interviewed with five different people at Fairchild and they asked me, "Do you want to go through the manufacturing process?" I said, "Yeah." So each time I interviewed and I went through the manufacturing process and I was taken aback by how quickly the manufacturing process changed when I walked through the line each time so I said this looks great. I mean, this product is really moving. When you move product, you make money probably. So, anyway, I was hired and I was hired when Jim Stengle was on vacation. So I came in and all the guys around thought I was a spy for Don Yost. They thought I was a relative or something, you know? And it wasn't until about three months later that they finally figured out that, no, I was just hired and they put me over there. Without my boss there at the time, no one knew what was going on. But, after being there for about six months, Jim asked me to go run the commercial test and finish so I became general foreman of the commercial test and finish and ran three shifts. I did that for about a year and a half or so and then Greg Harrison came to me and said, "Mercer, we looked at your background and you've got some experience in inventory control and, you know, our inventory control is zoom, a million dollars a month up and down and," he said, "maybe you can help out there." I said, "Sure." I said, "Who will I be reporting to?" And he said, "Bill Stansbury." I said, "Bill Stansbury?" I don't know if you knew him but I said, "No, I'm not going to report to Bill." So he said, "Well, are you sure?" I said, "Yes" and so I left, you know. And the next day, I'm walking down the halls and who do I meet? Bill Stansbury. Bill says, "Hey, Mercer, you got time for a cup of coffee?" "Sure, Bill." So we get a cup of coffee, we sit down, he looks me in the eye, he says, "I understand you don't want to

work for me." I said, "Yeah, that's right, Bill." He said, "Can you tell me why?" I said, "Yes, Bill," I said, "You never shoot straight with anyone that I've ever seen." And he looked at me and sort of smiled and said, "Well, what if I shoot straight with you, would you work for me?" I said, "Sure." "You're hired." And I went to work for him for inventory control and you know he never, never didn't shoot straight with me. He always did but I watched him work with other people, you know, and he was doing that with someone else. I'd say, "Bill," and he'd smile and stop it. Then the next thing, Greg Reyes came along and he said, "Hey, I need a PC manager for Discrete division" so I went and worked as PC manager for Discrete. After I don't know how long I was there but a while, Chuck Smith said, "Hey, Mercer, I want you to go out and run the Shiprock, New Mexico, plant." Little did I know. I came home and I told my wife, I said, "Honey, we're going to Shiprock." She said, "What'd you do wrong?" Because the saying was, it was shape up or Shiprock, you know? So I must have done something wrong. So, anyway, I ran the plant there and Chuck gave me some pretty stiff goals and they worked out pretty well. Then the American Indian movement came in and we've got some stories about that when anyone's got some hours to spend and wants to talk about some good times. But they came in, took over the factory. Got a call in the morning and Wilf said, "Shut it down." And I said, "Well, wait a minute. Let's figure out if we can get through this thing." And so I said to the tribal chief "Well, you know, if we start up again after this thing within the next couple of weeks, can you guarantee me no one will ever come in again?" And the guy looked at me and he said, "No." I said, "Why not?" He said, "We have to have a pow wow next tribal council." I said, "Well, when's your next tribal council?" He said, "Oh, six months from now." So the decision was made to shut it down. We moved all the stuff back to South Portland and to Mountain View. Then I ended up in Mountain View and then I ended up with a chance to work for Chris Reardon.

Reardon: Yeah.

Curtis: That was R-E-A-R-D-O-N.

Reardon: That's the way you spell it.

Curtis: That's the way you spell it. Chris picked me up at the Singapore airport and he brings me into the factory and, at that time, you know, Indonesia shipped product to Singapore for test and finish. And so he said, "Mercer," he said, "I'd like to have you come down," he said, "and take a look at the receiving goods from your plant." I said, "Okay, Chris." I walked down and I open up these tubes and every single IC has got a chip on the end of it, on the plastic DIP, you know? The stuff is junk. I said, "This stuff is no good." He said, "Yeah, now get down to your plant and fix the problem." So, within a couple of days, I was back to the plant and we did fix the problem. It was just a matter of melamining the equipment until it was clean and then running the process. If you didn't follow the specs in those days, we were in trouble. So, after Jakarta I went back and worked for John Sussenburger as his PC manager. Then we turned around and there's about four of us that were given kind of a deal to close down the Time products in Hong Kong. I guess, you know, Wilf went over there and saw how the Hong Kong people were running their LED watch products, you know? The material came in and they built it, shipped it out, and that was it and they closed it down at the end of the day. Then they'd do the same thing the next day. After Wilf, I guess, went over there with -- I guess it was Chuck or I don't know if it was Suss -- but, anyway, he said, "Shut it down." So it was kind of interesting. A lot of people don't know this but they ended up giving us a bonus. They said, "If you guys stick with this program," and there was about four of us that did that, "and we'll give you $6 million to close it down, no lawsuits, satisfy all the customers, you know, blah, blah, blah, blah," they said, "We'll give you a bonus" and we negotiated the bonus up front. He said, "Okay." So we

ended up, we did a whole deal, you know, closed it all down, no lawsuits and we gave them $3 million back. Needless to say, they doubled our bonus, which was kind of nice. So, then the last job when I came back was to be the director of marketing services, which was the order entry service and that type of thing. I worked for John Duffy there and played a lot of golf but it was fun being in marketing for a while. So thanks a lot and I'll pass it on to our latest man here.

Laurenz Schmidt: Well, thank you very much, Mercer. Now, we need to fast forward 17 years from the day that Mercer was hired with Fairchild. My name is Laurenz Schmidt. I joined Fairchild from TI in Germany. I was hired to be the engineering manager for the Wasserburg wafer fab that was intended to be built. Then I got sent to the Wappingers Falls, New York wafer fab to prepare a technology transfer program to Wasserburg. It was planned to last for about six weeks. Three weeks into that process, I received a fax, we called it twix then, and it said, "Schlumberger decided to cancel the project. Obviously, no wafer fab, no need for an engineering manager, you can fly back business class and then we can lay you off or, if you can convince somebody in Wappingers Falls that you might be of value, feel free to do so."

Malone: I didn't write that policy.

Schmidt: I wound up being the engineering manager for that Wappingers Falls plan and then, in '85, we closed that one down and I moved up to be quality manager for the logic division in South Portland in 1985. Quality was a little bit different then than it is today. One customer sent us back some ICs with a complaint that there would not be any bond wires <laughter> in the package. And I did have a fairly junior customer quality engineer at the time who wrote back to the customer, "Are you sure you ordered them with such?" There was some damage to control that needed to be done afterwards. Anyhow, then I was product line director and managed, as a foreign national, of course, I managed the Mil-Aero logic product line. I visited a TI plant where they made the HARM missiles and, about 30 minutes into the dialogue with the customer, they had some armed people coming in and escorted me out of the plant. It was quite an experience. Then I took over as managing director of the South Portland plant which, by the way, is one of the remaining two plants or factories that date back to the early Fairchild, that is South Portland and Sabu in the Philippines. Subsequently, I had successive positions in operations management and, for the last five years and going on, I'm responsible for worldwide manufacturing operations in Fairchild. I am definitely the most junior guy here among the giants of manufacturing in the early Fairchild. That has two consequences. First of all, I have to see myself as the Energizer Bunny, still going. So I'm not retired. And the second, you get the seat close to the cliff. Thank you.

Curtis: Good job.

Pausa: Within the time that's available, we'd like to throw it open and ask if there are any discussions, questions or comments that people in the audience have as a result of this starting discussion.

Audience member: I'd like to hear the story about how Bob Wilder was hired.

Malone: I'll do the best I can because I don't want to chew up the rest of the time. It is actually documented on the Fairchild, the Computer History Museum Fairchild website. I wrote it up for Dave

Laws. It is listed in there if you go into the computer history website, the long version. The short version, I guess the highlights. Bob was working for Ball Brothers Research in Boulder, Colorado, and Bob Graham, the late Bob Graham was the man who was responsible for recruiting him. How he got into a customer and ripped one out, I don't know, but he ripped a good one out with Bob. Bob Graham showed up in my office on Whisman Road one morning and said, "I'm bringing this guy in, we've got a limited window to interview him so I'd like him to come in." Incidentally, Bob was on his way to guess where? Mexico in his red Bonneville convertible and on vacation. So he brought Bob to me about 9:00 in the morning and wanted him to talk to John Hulme, Murray Siegel, Maurice O'Shea, the guys up in applications, so I turned Bob over to John Hulme and basically he entertained Bob all day and brought him back about 4:00 in the afternoon. Apparently, he'd had a good day and we plopped Bob down in the office and John called me outside and said, "I'd really like to hire this guy." And, of course, Bob was Bob. You know, those beady eyes just sitting in there grinning and staring at you, had a good beard on him at that time. I said, "Okay," and I said, "You know, you've got an open rec. What do you want?" John said, "Let's see if we can get him for $10K." I said, "Okay, works for me." But John was one of those guys who let me do the negotiating. You know, a combination of Bob Wilder and John Hume was just absolutely oil and water but he let me sit down with Bob. I sat in my office with Bob and we passed the time of day and danced a little bit and I just was making up inane questions and I said, "Do you happen to have a resume?" He threw on the desk his transcript from the University of Colorado, which had all As on it except for one C and I didn't know what to do with it. I asked him why he got that C and he said, "That was in Colorado history and you had to take that to graduate and," he said, "I walked into the class and the instructor said, "Take out a blank sheet of paper and draw an outline of the state of Colorado." And, instead of drawing the outline, Bob wrote on there, "It's on the map behind you, you dumb SOB." I'm not embellishing that story a bit. He said, "The guy never liked me after that." At any rate, we passed the time of day. The guy was brilliant. The guy was absolutely brilliant. We passed the time of day and we finally got around to it and I said, "How much money you making, Bob?" and he said, "$9,000" and I said, "Well, John's willing to go to 10." And I got this beady eyed stare, look, he said, "Really, I have 12 in mind." I said, "It's not going to happen, Bob. It's just not going to happen." That's nice but-- and I've known all the time. If we don't close on this guy, Graham's going to have my ass. So, you know, we sat there in a stonewall for a while and I was dancing around saying, "Well, you know, this is kind of a place, Bob, where, if you come in and show what you can do, man, you know, the sky's the limit" and I'm laying it on. And he's staring at me. And he finally came out and said, "Where's the nearest watering hole?" And I said, "Well, it's down the street on the corner of Whisman and Middlefield, it's Walker's Wagon Wheel." He said, "How long you going to be here?" And I said, "I'll be here as long as I need to be." He said, "Hang on until 6:00," he said. "I'll go down the road, have a few beers and I'll give you my answer then." And, sure as hell, at 6:00, the phone rang, he was on a pay phone down at Walker's, he'd had a half dozen beers, he said, "I'll take your offer. I'll be here after I come back after vacation. You put it in writing and I'll give notice as soon as I get back from vacation." He did and we did and that was the hiring of Bob Wilder.

Pausa: Any other questions? Any comments? I guess one of the questions that came to mind is who knows what Fairchild plant manager was held hostage by a plant crew and where did that happen?

Curtis: Tijuana, wasn't it?

Pausa: No, wasn't Tijuana. Chris, I think you know, right?

Curtis: Shiprock.

Pausa: Okay.

Curtis: Chuck Smith and myself were kept hostage in a meeting room in Shiprock. We went out there to find out what was really going on. It was all politically inspired, this whole takeover of Fairchild was politically inspired. We sat down at a meeting and what happened was that the guy who was a local councilman had brought in AIM [the American Indian Movement]. He had expected, by doing that and taking over Fairchild and solving the problems in the community, he would be the next tribal chairman and it didn't happen. We were sitting there and that's when we found out finally what was going on. We went to this meeting place and we were sitting there and I had my lawyer from Albuquerque, Chuck Smith and myself and my human resources manager and we got up. I knew I was in trouble when one of my supervisors got up. We had just had a layoff of, like, about 200 people because business was bad. And so this guy gets up there, the supervisor, said “I was in Iwo Jima and white man get shot. I pick white man up, drag white man across this plain to safety and what do I get? A pink slip from Mr. Curtis.” Like I said, I knew I was in trouble and what happened is about four people spoke and the doors closed. I go to Chuck, and said, "Chuck, we're in trouble" and Chuck turned, like, white, and this guy got up and said, "You are our hostages." All I did was go into an Indian mode and I said, "Well, now, wait a minute" and we talked for about an hour. I said, "I cannot make decision here. I must go back and see tribal chief Corrigan." "Oh, okay." And they let us go and we got out of there and that was it. We closed it down.

Jerry Levine: I'd be interested to know what you are doing now as post-Fairchilders.

Curtis: I'm retired. I've been doing some consulting for a company that's doing scribing equipment for silicon and for sapphire and gallium arsenide so I've been just keeping my hand in the business that way.

Reardon: I've retired back in Australia and I'm a member of a group, which is retirement arm of one of the big organizations, charity organizations but we're not allowed to do charity but we have lots of things we do and I've taken up wood turning, which frightened the hell out of me when I started to do it. You know, chisel in your hand.

Curtis: He always chiseled away at everything. That'll work for him. He's a good guy.

Malone: Jerry, I'm fully retired. I've been retired for the last 10 years. I walked through the looking glass in 1996 or 1997 and never looked back. I was interested, however, as getting prepared for this a little bit, I went through old Fairchild files that I have in the closet and one of the things I pulled out was a company instruction manual, that big maroon leather thing? And Jerry was the original author of that. It was a company instruction manual and I went through it. His name's on not every page because a lot of it's been updated but I think that was one of Jerry's original projects, wasn't it? You were long gone before I got there.

Jerry Levine: Did you burn it?

Malone: No. It's in the back of my Yukon. If you'd like it, I'll give it to you.

Jerry Levine: I'd love to see it.

Malone: I'm about to give it to Dave to the museum. I have no idea who's going to be interested in it.

Jerry Levine: That's where it should go but I'd love to look at it. It's one of the most onerous things I've ever had to do because nobody wanted to procedures in Fairchild in the beginning and yet there had to be some. We made them as simple and straightforward as possible and they were circulated before they were issued. The only worst thing was, for awhile, I had to be security officer. That was really dismal. It was fortunate it was before Homeland Security but it was still dismal.

Malone: This was as close to the navy regs as Fairchild or any other semiconductor operation ever had and I swear I don't know who ever looked at it, Jerry, I hate to tell you. It was a paperweight in my office, a book stop. A door stop. Don, I'm sorry, go ahead.

Shea: Oh, no, that's fine, Joseph. In my case, in 1968, obviously, Hogan's Heroes arrived and I thought, hey, if all these guys that are so smart came to Fairchild, I think I'll go to Motorola. So I gave it a shot and went the other way and actually stayed there about 30 years. But I've been retired about 10 years.

Pausa: Well, I'm retired four times. No, three times. The fourth time was supposed the end of this month but this accident has probably kind of suspended that. In the interim, I've done some consulting work with high tech firms and I've had, it turns out, some further association with Fairchild within the last three or four years representing some of Price Waterhouse Cooper's clients.

Laws: Gentlemen, thank you very much. We'll have to finish the panel now but please continue outside. Especially thank you, Ed, for everything you've done to put this together.

END OF INTERVIEW

