

**Transcripts from a November 5, 1998 K Basins
Spent Nuclear Fuel Project Public Meeting**

This meeting was held to discuss and take comments on Proposed Tri-Party Agreement Modifications and Reference Documents for the K Basins Spent Nuclear Fuel Project (Tri-Party Agreement Change Request M-34-98-01A). This modification package underwent a public comment period from October 5, 1998 to November 18, 1998. The meeting, which produced this set of Transcripts, was held on Thursday, November 5, 1998 at the Doubletree Hotel Richland/Hanford House at 802 George Washington Way, Richland, Washington from 7:00pm to 9:00pm.

RECEIVED
SEP 17 2004

EDMC

K-BASINS SPENT NUCLEAR FUEL PROJECT

November 5, 1998, Richland, Washington

Moderator: For the Department of Energy, Richland Operation's office and I will be the facilitator for this evening's public meeting. The purpose of tonight's meeting is to solicit comments from the public, on proposed Tri-Party agreement changes for the K-Basin Spent Nuclear Fuel Project. I like to go over the agenda with you, it was at the front table, as you walked in.

Pam Brown: First, Pam Brown, of City of Richland, will provide the Hanford community prospective. Beth Sellers, Department of Energy Richland, will talk about the Spent Nuclear Fuel Project progress. Doug Sherwood, is a U.S. Environmental Protection Agency, to talk about the TPA process, and Beth will talk about the baseline management. We'll have a question and answer session to clarify the above presentation and then we will have public comment section of the program.

For the public comment section, we ask that you come to the microphone, so that we can assure we record your comments and that we will be limiting comments to about five minutes. Are there any questions on the agenda? Ok Pam

Thank you, first of all I like to thank the Tri-Party Agency for holding this hearing in Tri-Cities, to give people in this region an opportunity to comment on this very important TPA change package. I am commenting, this evening on behalf of the City of Richland, and other Hanford communities. Our community's top priorities for the cleanup of the Hanford are number one, the removal, treatment, and safe storage of tank waste. And two, the removal of the Spent Nuclear Fuel from the K-Basins. There is already a significant amount of contamination in the soils at Hanford. And, we believe it is imperative to remove the source of potential future contamination at the earliest possible date. A list of enforceable milestones through the K-Basins Projects, was not originally included in Tri-Party Agreement, and we are very pleased that Tri-Party agencies have developed a set of milestones to which they can mutually agree, and we are also pleased with that they were able to come to this agreement locally, without taking this issue through the dispute resolution process. The K-Basin project has suffered from management and technical problems that have received national attention and were the subject of a congressional hearing this spring. As a result, there was damage to the credibility of this site and decline in congressional confidence in cleanup progress at Hanford. We can not afford for these issues and problems to continue.

The TPA change package document indicates that Department of Energy is "committed to drive improvements in cost and schedule for Spent Nuclear Fuel Project". Our community leaders and other Hanford stakeholders intend to hold Department of Energy to this commitment. The department is responsible to see that work defined in M&I contract is completed in a timely and cost effective manner. In turn the contracting companies must produce results through diligent project management. This is a challenging project and we need the best talent the contractor have in their companies to make it a success. Although, the adoption of enforceable milestones is significant achievement in it self. It is really just the beginning. The TPA now or will identify the task that must be completed in order to protect the public health and safety as well economic viability of this region, thank you very much.

Pam Brown: Thank you Pam, next Beth Sellers, will talk about the Spent Fuel Project, the status, issues, and concerns.

Good evening, I am the Director, for the Department of Energy of the dependence for fuels project, out here, oops, it's wrong slide, and I am going to go over what we have accomplished in last year. Pam told you about the issues, or ??? issues we have going through last year and a half on the project and in serious been real. We did have a congressional hearing on the project in May and as a result and lot of work that happened over the summer time. I think we are now in the position, where we can sit down definitely move forward on this project with lot of confidence, or lot more confidence that we ever had in the past. What I want to do, is just go over what happened in last year from a, ?completion stand point because, lot of good has happened in last year as well. For those who were at the Hanford Advisory Board this morning, you have probably seen some of this before. What's going on here? Alright, alright, isn't that funny, it's backwards, that's helpful for me. Anyway, um, so I apologize for that, but for those who aren't familiar with the project or haven't seen some of these photos.

I'm going to do little bit of history here, this is the photo of the 100 K Area of the Hanford Site. As you can see, it's located quarter of a mile from the Columbia River, our two basins are K West basin and our K East basin or where we have stored approximately 2100 metric ton of fuel this turns out to be about 210,000 individual fuel element. So that the process we are getting ready to endeavor come in next couple of years, it's going to be pretty profound, it's lot of work and lot of fuel that has to be handled. We have constructed a cold vacuum drying facility that I will do little more detail on but I want you to see the proximity to the K West basin. To give an idea, what the fuel looks like, we have two different conditions. In K East basin, we have about half the fuel stored and it is in open canister configuration. That fuel is considered to be the most severely damaged of the fuel in the two basins and this is an example of the worst fuel that we have in K East.

In K West, when they decide to store the fuel in that basin, we did little bit smarter about, and we encapsulated the fuel over there. So you won't be able to walk in K West and actually see fuel, you will see a canister and we were hoping that this will protect the fuel from interacting with the water which it had, as a result of this containerized conditioning in K West is that considered to be much cleaner basin than K East. Another item that is going to show up in our Tri-Party Agreement milestones that you noticed in there, is getting rid of debris and sludge. This is an example, this is been cleaned up, by the way but it is a good graphic anyway of the condition of sludge or how much sludge we have in our K East floor and also the debris that sitting in there. Our debris that casters or I mean the fuel located in about 7000 fuel canisters, and so as we go through and clean the fuel, we will have the canister in left over condition. We will clean these canisters and prep them store them in low level burial ground. And the water that's surrounding the fuel elements will also be disposed of.

This is our canister storage building, this is the facility, have a better picture here, this is the facility that located in the 200 East Area, about 10 miles away from the river, up on the plateau. This canister storage building has three vaults in it, and vault one is one where we will be storing the fuel from the K Basin. We have other spent fuel at the Hanford Site. It's coming from FFTF for instance, and the laboratories down at the PNNL and they are already in cask storage configuration, and that we will come and place those on the storage pads that we have constructed just several months ago. Inside the cask storage building this is what vault one looks like today. I did not have a good blow up of that to show you, but you can see the base plates

have been installed and right now we are procuring the tubes that will go from the duct area down to the base plate 40 feet tall where we will store two multi canister over packs. That will have about 220 of those tubes located in vault one and they will be fully packaged with multi canister over packs. It is just a close up of the intake stack at the canister storage building. That was installed about two months ago, this is our receiving crane and fly the canister storage building this is the crane that take the fuel off the cask transport system and move into a receiving pit, at the canister storage building. I don't have Nancy's pretty pictures that she got today, it was very late coming item this morning but this is a picture of our multi canister over pack handling machine. This is the cask that multi canisters were loaded into while they are being transported across the floor in vault one to their repository. The cold vacuum drying facilities are second big facility on the project that we have constructed. It's going to be located like I said it's located 100 yards from K West facility which is located over here in this corner but it's going to have five process bags. The plan right now is to outfit 4 of those with processing equipment. This equipment looks like this and this is where we will remove all the water associated with the multi canister over pack, and say there will be the fuel elements will be cleaned, I will go through that process. Repackaged in the basins, ??? you pull the multi canister over packs out of the basins, that they will contain water.

This process will remove all the fuel, all of the free water. This is important because, we don't want have corrosion continue to occur inside our multi canisters over packs. And removing this water has allowed us to get to a filled ????? state. This is a major technical achievement for the project in last year and a half. We are going to be able to seal weld the cap on the top of the these multi canister over pack, weld it shut and store them for 40 years in the canisters storage building and not have to do anything else with them. We will having a monitoring program so that we can assure that what we think can happen is happening but this something that took the project three years to get the ?????

The pure retrieval system is the major system inside the basin. This is the system that will receive them canisters and will wash them remove all sludge against their washing system and remove the sludge from it and cleans the fuel element. It's pretty robust system that going to be lot of banging and clanging associated with it, so we feel very confident in our tests and our cold testing has demonstrated very high sludge removal capabilities. Then, the fuel will dumped on to a table, see if I can show you a better picture but shows now they will be dumped up at this end of this processing table. Move down and we have this conan arm we call it is manipulator. That will remotely operated by the operators in the room couple of rooms away from the basins, within basin facility itself, just not inside the basin. And this manipulator, this is a better close up of it. We will physically pick up each fuel element one at a time, so that process of moving 210,000 and actually having to touch each fuel element and two and two an half 2.7 years period is quite lot of work and it will stack it into a basket. And as you can see inner and outer here and they will be put in that configuration in each of the fuel baskets. There will be one conan arm in ??? basin, the you see the picture this is an actual picture of the basins right now. We have been putting Q tables, we have installed ????? K West and that's the tables we have received these baskets after they have been filled with fuel and it will be the queue putting the baskets into multi canister over pack. Our cask transportation system, it gives you a bigger picture of the cask and transport system. This is the cask, and transport system. We have five of these, that already been procured, fabricated, and on our own site. This is the first sub project in the entire Spent Nuclear Fuels Project that is being closed out right now. At the end of fiscal year, we have completely received all five units and we are looking for covers to put on top ??? and they be just put aside some where.

This is the system, this is located out here at the facility on the site and this is the actual MCO load out system that will be installed in K West. This is the system that will move the baskets along. This is the system that will sit and pick the basket and physically put it into multi canister over pack, and we have completed testing on both systems one for K East and one for K West they are basically sitting in storage right now. That was just completed about a month ago.

This is a drawing of a what multi canister over pack will look like. We will have about four fuel baskets that will be stacked inside each multi canister over pack and on top we will have something called a scrape basket. This gives you a picture of what that looks like, this is a fuel element basket and you can see the indentations at the bottom. Where these fuel elements will be stacked in vertical configuration and fully loaded about 56 sets in there and loaded into multi canister over pack. We got some pretty dense packaging going on here, this copper shrouded basket is the scrape basket and this where we will put the pieces that are not stackable. We anticipate that we will have some breakage in the system or fuel that already in little chips and pieces condition and so anything from quarter of an inch up to about three inches will go into this scrape basket.

We had a lot of technical issues to resolve on the project and here is the list, the depiction of the top six that we have recently come to closure on, with one still remaining outstanding. We had to figure out how much water we were going to leave behind in the multi canister over pack. So we can factor that into our analytical modeling on how our pressure would be generated for the 40-year life, fact that we are going to have this fuel stored. We had to figure out how much gettering would occur inside multi canister over pack. So we would not get in the condition where we had too much oxygen and have a potential deflagration event occur. We wanted to know how many scrape baskets we could put in multi canister over pack. We were limited to one per mco? Were we limited to, could we put as many as two, or could we put zero in multi canister over pack and just fill it up completely with fuel. We don't know until we start moving and physically handling this fuel, what's going to happen. That something we can't go out and determine and so we have closed on that issue, it turns out we can have zero, we can have two baskets, we are covered on all aspects of that.

Aluminum Hydroxide, this is an issue that came up a year ago, when we found, as we were doing characterization in K West, we found that we had coating. These coatings were orange color, rust color, clear color they were opaque but we had coatings. So we had to go through an analysis process to figure out what that coating was, turn out it is aluminum hydroxide. We had a reaction with aluminum canisters in K West as they were packaging these fuel elements before they stored them. They put a corrosion inhibitor in there as well, so there was a chemical reaction that had occurred that resulted in some cutting that was on quite a bit of fuel element in K West. This concerns us because, this aluminum hydroxide is about 35 percent by weight water. We don't want water in these multi canister over packs that's an issue for us because, water through a radiolysis analysis of 40 years will break apart in hydrogen and oxygen. We have pressure there that will be generated in multi canister over pack. We don't want pressure. So it took us a bit of time to go through and resolve that issue and that got resolved this summer and it turned out we were in a very safe condition. We can have quite a bit of aluminum Hydroxide in multi canister over pack and still be very, very safe and conservative in our analytical assumption. We anticipate however that our fuel retrieval washing system is going to knock all this stuff off. It is particularly coated it comes off pretty quickly.

Uranium oxidation rate you see that one still a ?? and that's the cause we had some problems with the very sensitive piece of apparatus at PNNL. A thermo graphic metric? analysis apparatus where we take tiny little piece of uranium and we oxidize then we see how rapidly the chemicals or the hydrogen comes off of that so we can emulate what will happen during the COLVAC drawing process. The apparatus just really finicky toward the end of the summer and we had to replace several circuit boards and we finally got it operational during October time period. We had four runs that we has successfully completed with radiated fuel out of the basin and they have very good but the results ???? come off those runs have track ???? values. We had about eight more test that need to be completed and that will happen that completion date sometimes in January about mid January. So this issue will completely put to bed and this the last remaining technical issue we need to get closure on, from documentation stands point, so that will happen in January time period. We want the report coming out some where in late February or early March time period and then multi canister over pack monitoring. We want to have a plan for what we are going to do with this fuel when we got up to the basins I mean canister storage building. It's nice to package it and have all your analytical modeling, and characterization data support that you are not going to have an issue but we feel like it's put down and take a sample and go through and look at those over a period of time. So right now, we have made a decision on how we are going to monitor so at this present time we are going through and getting the engineering details to support that.

This kind of gives a list in quick fashion of all different issues that we have to sit down and address for each step that we have gone through on the project and this gives us basis for our safety case for the project which is very important. We don't want to move anything unless we feel like we understand every step of the way. And as you can see with yellow that's only issue that remaining outstanding so we have the documentation that's in peer reviewed internally to Hanford and peer reviewed with outside experts that basically confirmed all the analysis that we have done on the project.

Our major issues that we are tracking K Basin's operations. If you were at Hanford Advisory Board today you heard Jim Watts ask how we are going to get these people trained, we have couple of hundred operator we need to bring onboard. We have about 80 health physics technicians that we need to bring onboard, we need to hire, physically hire these people to get them trained so they are ready to go operate the cold vacuum drying facility to canister storage building and our two basins. We have operators now and HPTs in our basins present day of course to watch over this fuel and keep it in safe condition. However, when we are doing this work, we going to need quite a few more and so that is a major issue for the project. We need to be getting on and we have plans in place but we need to start that process and fiscal 1999 you will see that happen.

What we got to do in fiscal year 1999 also is approve four major safety documents. That may not sound like lot of work and it may sound like never mind but it's major, major big deal for the project to contend with we had to receive this from the contractor, then the Department of Energy has to go through a review process with an independent review team that we have and get them approved. And for each of the four documents we have about three and half months from the Department of Energy stands point to get that approval done. That's never been before that's big deal that's good I mean, we are being very aggressive and going through our planning process. These documents have looked at in phases up to this point in time, but this is it, this is the final document that we need to sit down and get approval for this year, and then we get all

our procedures written to support that those safety documents and get all the training completed after those procedures have been written.

I mentioned the closure of that technical issue fiscal year 1999, and fiscal year 2000 funding, and fiscal year 1999 we pretty much walked in this year with 18.6 million-dollar delta. Our need that we had on Spent Nuclear Fuel Project. The contractor worked very hard over the summer to fit and figure out a way to absorb that into the project and not have to go or some other project here on Hanford Site because, we don't want to do that we want everything on this Hanford Site to move forward and so the contractor has successfully brought that number into the project and we are not needing money in 1999. We do have a need fiscal year 2000, it has been committed to O&B. O&B has supported our increased need in 2000 without having to take money away from other projects here on Hanford Site.

And I mentioned this final safety analysis report. Here are few more challenges, let us see, only one I haven't mentioned is full implementation of quality and a integrated safety management system program. We have spending the last year paying a whole bunch of attention to quality on the project, and it's an issue for us. We have increased the awareness in the standard for how we are implementing quality requirement on the projects so that when we go through our operational readiness review, and we get permission to operate this facility. We are going to be able answer lot of mail. This is our schedule, and this is what you are seeing in Tri-Party Agreement milestone package. The milestones that have built of this schedule. We have added time to this schedule through the negotiation process with EPA plus just scrubbing through our project it self, and working with each sub project manager to make sure that we had every risk associated from schedule stands point factored in. In the development ??? schedule, as you can see safety basis as continual line and we have right here approval of ??SARs as you can see where that gets us through to getting our startup operation, our startup considerations completed and this from Department of Energy stand point across the site. This is a very challenging schedule to meet, it's about 17 months, and again history of Department of Energy doesn't pull three major facilities on board and get them approved in 17 months period of time. So we are trying to be as aggressive as possible to make sure that successful at the end of it. Then we have the management self assessment that contract will perform and their operational readiness review that they will go through and then DOE comes in at the very end. And then in two week period of time comes through and does the evaluation, and says yes you are ready to go or no, you still got some issues. We want that end to be yes of course. The fuel movement, one thing that we did do in this negotiation with EPA and Ecology is we did separate start a fuel movement in K East and K West by one year. We had a six months separation previously, and we just think it's more prudent to sit down and learn to walk and run out of a facility that's cleaner and get a whole operational staff pull up the speed one facility before you start getting two going in series, and so we separated that by a year. We did add seven months to the end of the fuel move. We had a two year window to get the fuel moved. After looking at our final design and looking at our system configurations and everything that had to happen, we decided, we better add seven months on that to make sure that we are going to be successful in getting it done. It's quite an aggressive schedule and then we did add two months for weather considerations, it turns out we can't move this fuel from the basins to the cold vacuum ??? facility less than 40, 35 ° and something tells me we probably are going to get some cold weather in this two year period of time. Our agreement status and ??? go through lot more details in this TPA that we are working on CIRCLA and we are very pleased to be working on that agreement, and we think it's going to be very helpful for us. EPA is our lead regulator ??? what schedule is for doing our review. We are in process of doing our public review, and we are very anxious to

get your comments on the Spent Nuclear Project tonight. This is a quick compilation you can see every milestone in its milestone package that you all looked at. Here on one viewgraph, enforceable are on the top, you see that majority of these milestones in this package are enforceable, which puts us under lot more stress, but it also makes us motivated to paint these thing successful. And then we have targets down in the bottom quarter or third region in there. We tried to be very specific about getting milestones stretched throughout the entire life of the project. ????? just start up fuel and then ignore for couple of years and forget about this sludge, we wanted to sit down and put milestones that pretty much keep good eye on the project over the whole life. In fact, we think we have done a good job at that. I am going to let Doug at this point and time sit down I mean talk about this further if he wants to, you want me to leave this up, Doug.

Doug, no you can go ahead and turn it off.

Beth is pretty much described the what's gone on in last few months, I like to give a little different perspective on it. As many of you may or may not these schedule was arrived at through the resolution of the dispute, and that was based on the fact that in the spring of this year we could not reach agreement on this schedule, and we could not agree that the cost were in line with the work that needed to be done. Quite a bit of that was DOE was very uncomfortable with technical issue resolution that was going on, and they were seen number of delays on different parts of the project. To gather during the month of July, we took a very, very serious look at the base find for this project, and to DOE's credit they let us into the room, and let us see all the bumps and bruises and the warts and the bad things that were in the schedule, and I think together we learned an awful lot about the project, it's structure and some of it's frailties and the one Beth is probably describe the best is, it look like it very difficult task to move 400 canisters of fuel in two years of time frame. Especially, when the first six months was, we were only going to move six, so that was 394 in the rest of the time, and so we felt that wasn't a recipe for success.

After the month of July, we entered into dispute in middle of August with DOE and said, we were setting a time frame to reach an enforceable schedule, that dispute was Lloyd Piper, Randy Smith, who is Environmental Cleanup Office director for EPA that called the senior executive committee in terms of our Tri-Party Agreement. That dispute was ended successfully with the agreement on the milestones but, we also reached an agreement on frame work on Spent Nuclear Fuel Project improvement. Those were the areas that we thought the project needed to concentrate on in order to make sure the baseline didn't change in future, and that we really did have some confidence that project was on the mends. And I think we are making progress on that today. I personally am pleased that we are on track. In turns of what's happening here on out, we have assigned a tentative agreement for the milestone M34. That will be in public comment through the November 18th, there will be another public comment period in the middle of next spring about March on the proposed plan for the spent fuel project. That is the CIRCLA document that describes the whole remainder of the project and the alternatives that we see for, and this is really where the CIRCLA part of the process comes in, the Comprehensive Environmental Response Compensation and Liability Act. That is the process where it's regulatory process that's one of the processes in the Tri-Party Agreement and the main goal of this action under CIRCLA is to mitigate the potential to release the contaminants from the K Basins. And what that means is that we need to clean up the fuel and get out the basins, and we need to clean the sludge and get it out of the basins. Clean the debris out of the basins and dispose of it appropriately, and take the waster out of the basins so at end of the program at the end of milestone M34. The basins will be dry basin ready to be decommissioning at a later date.

And that's the really the process we are going through and it was one that previously the Spent Fuel Project pretty much ended at a definition that was described by a defense board milestone which was the defense board milestone 94-1 which was basically removal of spent fuel, and the sludge from the basins, but still left us with the potential to release contaminants from the water in the remaining debris. So this is more all encompassing project than previously envisioned, and it's one that I think all of us going to work together to try to make it a success. Thanks

Thanks Doug, Beth Sellers will discuss the baseline management on this project.

As Doug had mentioned, we went through a exercise this summer that was very very excellent for the project to go through. Department of Energy in consultation with contractor of course and EPA coming and joining us in this review and Dean ????? also showed up and participated in this review periodically but we went through and scrubbed every facet of project baseline. We touched every piece of paper every basis of estimate that was pulled together to generated to a come up with a our resource floating and our cost associated with our baseline. And this the first time we have been able to get such a level of detail here to fore project we had not been able to see the detail, because frankly in lot of places it wasn't there. I mean Doug talked about the process we went through in the spring trying to get resolution and not having a lot of detail on some of the projects this was not across the whole project, but it did cause this concern. And so, the contractor was able to provide this information to us over summer, we spent three months. Half of June and all of July all of August and first part of September going through this. Myself, Nancy Williams have formed a baseline management board, where we will sit down as a joint team and approve all the baseline changes request that occur on the project. And she and I with three other folks had her on the board. When of my staff members and two of hers comprise this board and we spent the entire month of July touching it from a higher level and getting down into detail and then I left it up to my folks and her staff on to month of August and first part of September to go in and actually scrub every basis of estimate that was generated. We had to look at some sub project of to three times to get information in the shape that we wanted to get in to the mixture that we had the confidence that it was going to work. And we can sign up for Tri-Party Agreement Milestones. The good news is we got to that point, let see. One thing unique about our baseline is for the first time I think that at Hanford Site our DNF? Milestones 94-1 recommendation that Doug mentioned are Tri-Party Agreement milestones and our project milestones are all the same. It built of the same piece of paper so we are managing each to same baseline, which is very good. I talked about the basis of estimate backup documentation and the fact that we have set down and scrubbed this, we also had independent team outside the Department team PAI come in and spend May, June and July and August with us doing their own independent scrub with basis of estimate. And give enough advice, they looked at both from cost estimating point and technical stand point was the contractor doing the smarter thing technically on the project to get us where we need to go with getting this fuel removed or where there were some smarter commercial ideas that we can bring in to the project. The bad new is that they were not able to find any, I guess good new is they weren't able to find any more advantages that we could take on the project or the bad is we weren't able to take advantage any thing from commercial stand point.

This is a break out by fiscal year of the project cost. As you can see we have a total project estimate now of 1.586 Billion dollars, and this an increase of what we had in the past this increase has happened a lot, because of having to shift the schedule to the right and not get started in doing the fuel???? we wanted to, and so we had to carry some load to into 2003, 2004 time period that pretty hefty. The increases split up into three big areas one is to schedule a

extension that I talked about 260 million dollars associated with it, a 175 million dollars cost increase had to do with our estimate in getting down into a very good business of estimate that substantiated that is a dependable from a define and engineering stand point. We were operating of lot of random order of magnitude estimates and the problem the project had they were not keeping up to date. They were, these, turned out to typically to lower than what reality would associated with the when they went out for vendor estimates, we weren't keeping track and keeping control of those numbers so we could factor them in. That's typically how a project first of kind would operate, you go through your preconceptual design, your design then you go through your engineering and they are always increases in cost or tightening of the estimate associated with it, but you deal with it through contingency that every project should have associated with it. We didn't have contingency on this project, we started out with about 8 million dollars of contingency of 750 million dollar project which is not very much contingency, it's definitely not appropriate so what we spend awful lot of time doing this summer was going through and building their appropriate amount of contingency into the project. Each sub project manager would get a lot of documentation and backup on this, but we have, we have a very high 90 percent? confidence level that we have bounded the cost that is associated with this project and we don't think we exceed this TPC that we have developed and there is lot of detail backup like I said, sit down and demonstrate that the contingency just so that the contractor or you know that it's not going to be free money even sit down and come and ask for, they are going to have to come forth and bring a baseline change request and they will have to come before this joint DOE and contractor baseline review board to get approvals to spend contingency or we are going to very tough on people they want to send the message out management in your cost that you guys associate with your project. We are going to see things that we don't expect, we are dealing with 50 year old facility this little bit of rain we had today caused to leak go down from the roof into a facility we had to cut off some electric and deal with some electrical problems. As a result not a major ??? pack but we are, it's old facility, we don't know what's going to happen in the future. Any thing can come up, let see, I already talked about the schedule extension for the fuel retrieval and for leaving the fuel, but anyway I wanted let you all know a lot of time and energy was spent over last four months trying to get a baseline that we had confidence in and we feel like we are there and we feel very comfortable from the Department of Energy stand point in signing up for this Tri-Party Agreement milestone not to say that this is going to be cake walk and we are all going to be lay back and take it easy, because we got something established.

As Pam said, this is the beginning, we got a long road ahead us, this is still going to be very difficult project to execute.

Pam: Thanks Beth, we are at the section in the agenda where Beth and Doug are available to answer clarifying questions on their presentations. Are there any questions from the audience. Sir, could you come to the microphone, so we can assure you get your questions recorded.

?? Moore, Washington State University, this the question for Beth. The aluminum hydroxide is come from aluminum cladding, aluminum hydroxide is now zirconium claddings? That's what you meant to say?

Beth, it came from aluminum the canister, the reaction between the canister .

Moore, Canisters?

Beth, the canisters, because we have some aluminum canisters in the K West facility, some of

them just have aluminum tops, some of them the whole canister, the reaction with the corrosion inhibitor with the aluminum and it did absorb on to the zirconium cladding.

Moore, thank you.

Beth, other questions, from the audience. Could you state your name please, excuse me

Warden Rogers, I am Warden Rogers, private citizen, your present project ends with safe storage of the canisters in the canisters storage building. Yet, it seems to me that you still have a term? than average unstable metallic uranium substance in there with the plan storage period of , oh, decades or so, the eventual movement to Yucca Mountain, but there is no assurance from the metallic uranium would be accepted in Yucca Mountain, is there yes,

Beth, there is not yet, we just had a meeting last week with the national program people on that issue.

Rogers, Is there any plan for a follow on mission to examine how you would reprocess the fuel?

Beth, they are working on that right now, at Yucca Mountain, as I said, we had a meeting last week where we sat down to discussed this fact, and I'm hoping during fiscal year 1999 we going to get closure on the issue. Will they accept metallic uranium in the repository? Will they accept articulate in a canister in the repository? And said, they are very active working on this issue so we don't have an answer at this point in time. If they decide they don't want to do metallic uranium in the repository that's unacceptable then we will have to reevaluate and see what we have do at this point and time. It's been our assessment from Department of Energy's stands point people would not want to wait to get this fuel off the river until such a decision was made, it's not a easy coming. We are pushing hard that it will be acceptable and we think we can make that argument.

Pam Are there any questions?

Marilyn Reeves. I am Marilyn Reeves, I like to go back to contingency slide, I have couple of questions. First, as I understand it contingency was not built into the original estimates, so therefore, that account for many of the cost overruns in which standard practice, but also on that slide I believe you talked about rough rows ? roughs something estimates, random order. Is this form of contingency, was that originally built

Beth. Rough order???, excuse me, rough order ??

Marilyn. Rough it was something ok, so one. Is this a form of sorts of contingency even though, it on same, I think I like the same overhead put back up. And I want to find out if whether that was originally part of some of the cost estimates? You know which, here we go rough order of magnitude refined estimates. Were there rough order of magnitude estimates as part of the original costing of the this project.

Beth. Everything was wrong, because we had not gone through and design this we had no historical data to sit down and go, well it cost us much for that project over there in France, or over there in Korea so let sit down and use that as basis for building our numbers. We did not have any historical information to go from to from definitized numbers. So everything started

out ????????????? (talking at same time)

Marilyn. So now, where you have that heading refined estimates that you are still using some rough order of magnitude.

Beth. Lets talked about the one we do have on the project, that's still there and that's the sludge and doing the chemical pretreatment that we need to do to the sludge before we can get it into the tank waste remediation system. That is a ?? we have gone through and done preconceptual design on that system we got some process flow diagram of fiscal year 1998 that have very detailed scope ?? what kind of processes we need to go through, and we have put what we think is a good sounding number for how much that process going to cost but it won't be until fiscal year 2000 that we got money in our baseline to sit down and get it definitized any more.

Doug. I like to add something a little bit to that I think it is one the issues that has caused this project's problems that is this idea of concurrent design construct and safety analysis. What happen was that you have a rough order magnitude estimate to produce a certain safety document or design or piece of equipment then every time you made change to that design based on either on the safety analysis or it's constructability you had a change and then you had new rough order of magnitude estimate either for making the change or for continuing to produce the product you are making. And this is just a process that I guess I would never recommend again being used in any project, because you really need to do enough design of front in order to solidify these estimates to give your project credibility in future.

Marilyn. Do you agree this?

Beth. Ya, In 1995 we were putting much handed schedule, and handed a 750 million dollar to go make this happen with you know the cost funding scenario and we accepted that because number one: we wanted to take home a challenge, we wanted to ??? risk. Number two: we didn't know what it was going to take to make this happen. And technically, doing the characterization work in parallel with doing designs and doing construction is a very tough way to go. It's been hard. But until you go through there and you start doing the characterization you don't know the scope of what you got to deal with and we ended up having some issues that took longer than we had hoped it would take to get resolved. We did not have the contingency in the project from the getgo to sit down and address any unknowns that were found in that design process and engineering process so that we could sit down and manage within that money. So Doug's right. What would happen is, we'd find out a problem, it'd take longer to get something resolved than we had hoped it would. But the cost of that delay was never factored into the cost of the project.

??? And the original estimate of the cost of the project was submitted to DOE by the contractor.

Beth. Yes.

??? Probably using rough order of magnitude estimates.

Beth. Yes.

??? And there was no contingency as a result of DOE, or was this a choice of the contractor?

Beth. We were trying to fit within a budget that the Hanford site had been given, and we had

already robbed from Peter to pay Paul basically and had filled up what we thought we would need. Westinghouse did a good job at the time of trying to figure out what they thought the cost would be, to be fair. They just didn't know on the execution side of the house, was that going to turn into a reality? When you go through and actually do the designs and you go out to vendors and you do your fair cost estimates from a contractor's standpoint, you go out to the real world, to the vendors who've got to fabricate this stuff. We had the vendors come in higher.

???. I'd like to bring up one other issue that did come up at the Hanford Advisory Board today, and is of concern to me because I think that when we look at where we have potential accidents, it's human frailty and human, you know, ordinary people are trying to operate very complex things. And so I am very concerned ??? to be operating the equipment, to dip down and pull out these rods that may not have... we don't know what... I mean, they're corroded badly as I understand it, and may not have a bottom to what they've got, and I don't have a great deal of confidence after hearing the Board's discussion today on that issue, that enough has been in into assuring that we are going to have a stable, well-trained work force ready at the time that we need them. And that they are also going to be available for both of the Basins. So this is still a concern which, it's not a question, but I just wanted to bring it up.

???(guy). You did ask that Nancy come back in December and address that issue, right?

???. Yes.

???(guy). Ok, well I think that's good.

???. Yes.

???. Are there other questions?

Harold Cock speaking for myself tonight. You have a total project cost of 1.7 billion roughly. How much of that has been spent to date?

Beth. Five hundred and thirty-three. Troy you have that off the top of your head?

Troy. Five hundred thirty-three million.

Beth. Oh good. I remember.

Harold. You have about 1.2 to go then. Secondly, now that you have a baseline schedule and estimate, what management tools do you have in place to track progress and expenditures to make sure you stay on schedule this time?

Beth. Good question. That has not been as disciplined as it could have been in the past for sure, and so this baseline review board that I've talked about, no baseline change request will be approved until it goes before that board. The board has made a commitment that we will not approve any baseline change requests until we see evidence that the basis of estimate has been detailed, very detailed written out so that we can see that our books are being kept up to date that sit and describe the total scope of the project from a cost standpoint.

???. (question can't be heard)

???. Well, I'm depending on, I've got a business manger on my staff who's going to be asking questions. I've got my technical staff on the RL side of the house that will sit down...they have to, the baseline change request has to go through them so that they can do their detailed review cause they're working more closely day to day with the actual sub-project mangers. And so, it's my expectation that they will review those baseline change requests and advise me as to whether or not they believe them. The resource loading of the project was gone over with a microscope this summer, and so if it comes back and they have to get more people for this or that the contractor is going to have justify it. An example: today I turned down an advance work authorization because they asked for, it was a small bit of money, but they thought they needed to get more money for people that are already there on the project doing work. And so I said no, the people are already there, we're already funding them, they can go ahead and do the scope too. So, that was an example of the contractor trying to make sure they were documenting the use of peoples' time and all that sort of thing, but they were in a training session, they really didn't need to bring that one forth. So that's one method. I have, as I said, my business manager has formed her own team, I for get the name of it, but it's in conjunction with the baseline control folks over on the contractor side of the house. And she needs weekly to go over how the baseline is being managed, the tools that they are putting place to sit down and communicate to us at our monthly review meetings, how this baseline is being managed. We'll be watching contingency at our monthly review meetings on a monthly basis. We'll be talking about the risks that are going on in the project. And as we get through the year, and say we're six months down the road, and the risks that we had built our contingency upon turn out not to be realized - I mean we hope that's going to happen in some cases - we will sit down and take that money outside that risk process and hopefully pull some work into fiscal year 1999 to get more work accomplished. We're not going to just leave it associated with that project if it's not needed any more and the time is gone past for that need. We have weekly meetings with the contractor at senior management level that will continue, and we will be tracking the status of the project from a schedule control standpoint. The contractor has an excellent meeting on Wednesday afternoons where they sit down and they go through every detail associated with the schedule. Anything that's near critical path gets discussed, anything within thirty days of critical path, anything that was supposed to have started up - whether it's near critical path or not - gets discussed and the sub-project mangers have an opportunity to come to this guy and say why they didn't get started when they were supposed to have gotten started. Recovery plans for work that didn't get started are developed and communicated at that meeting. And we also have meeting at the very senior level between RL and the contractor- and that's John Wagner and Ron Hanson - who sit and talk on a weekly, biweekly basis about the Spent Liquid Fuels Project so that issues that we're seeing that aren't being addressed maybe quickly enough, they get top management attention if that's needed. So, the baseline is going to be managed very tightly. We are working from a contractor's standpoint. Their baseline control folks are having weekly meetings with their sub-project controls people and communicating their expectations for performance and how they're going to be managing their basis of estimates and their resources at the very lowest levels. And so, there's a lot more direct line of communications and expectations that are being expressed so that people are going to perform to this baseline that we developed. We didn't go through this trouble, this work, for the last four months to sit down and have it be out of date in six months. We're going to maintain this.

???. And, in terms of the Tri-Party Agreement process, every three months we go though all of the milestones in the TPA to determine their status, how they have progressed over the last three months, and if they're really on track to comply with the milestones in the agreement. And that

includes cost, scope, and schedule. And once we get this package signed up to, we'll be doing our share of reviewing as well, Harold.

???. We have our first ??? due the end of this month and we're going to meet it.

???. Are there clarifying questions?

???. ? from Hanford Watch in Portland, Oregon. You know, I've been with the Hanford Advisory Board since it's inception, Beth, and the Spend Nuclear Fuels Project was always sort of the baby. You know, the star program, and what I want to know, real briefly, without you getting us all breathless – and I'm not doing that as a personal attack, but I want you to be that brief – What are the lessons you guys learned, and how is it really going to be different this time? What are the lessons learned? That's the key question. So that we can have some assurance and not be queasy every month thinking that something is going to go wrong, because we rode along on the wave of these grand reports from you and your people for a long time thinking everything was going great and then all of a sudden, the sky fell.

Beth. The ??? had the same question. About a month ago we had a video called... the topic of discussion was systems engineering and please describe Spend Nuclear Fuels which our systems engineering process is all about. They were totally convinced that we didn't have one. Well, Nancy went through and described it for about forty-five minutes, and at the end of it they asked the same question. You've got it here, the tools are there. How did you all screw up? What really happened here? If you had all this in place, why didn't you know? And the bottom line was we had not control over our baseline. We didn't have the level of detail, and the linkages between the sub-projects and the schedules and the cost associated with any delays so that we could be alerted as quickly as possible that there were impacts coming down the road. It just flat out wasn't there. And so, this development that we've done over the last six months, or the contractor has done, really since December they've been working on this, so it's almost a year ago now, in getting that level of detail, getting that level of discipline and control in the project is going to benefit us and gives me a high degree of confidence that we will be able to identify issues very quickly. I mean, almost the minute they're happening here. We also had an M&I contract change-over in the middle of a project, and that was more devastating than anything I ever thought would happen. I thought we'd be able to spring through this, that we had the basic premise in place for how we were going to execute this project. We're bring new folks in and having them understand the environment they were working in out at the Spend Nuclear Fuels Project with the Hanford site, and understand that yes, they were accountable for getting this work done, and understand the issues and that they were real. We had a difficult time getting that communicated to them. It wasn't from lack of trying, but people took longer than they should have in understanding the seriousness of the issues and that they were going to impact their work. And so, we had to work through that. That's what resulted in our Congressional hearing. And so, not that you'd like to go before Congress, but we had to get there to attention on this project.

So lessons learned: baseline control is a very important part of any project and you've got to have it in place if you want to have any hope of success.

Beth. We're at the conclusion of the question and answer session/portion of the agenda. I understand there are no sign-ups for public comment. Is there anyone from the audience at this point? Oh, we do have one now. Okay. Pam is not here.

???. (can't be heard)

Beth. Yes.

???. (can't be heard)

Beth. Oh, was there? I'm sorry. Please, could you come to the microphone, Kathy?

Kathy. I wanted to know what this Circla-National Remedy Review Board is, and what kind of information are you going to submit, and what is it supposed to do for the project?

???. Okay. As one of the pieces of the Congressional legislation that's come out in the past few years, and I don't remember which authorizing committee or which year it was in, mandated the EPA look at very costly remedies, very costly clean-up projects, with a national remedy review board. In other words, if a project costs over a certain dollar amount that the federal government was going to have to pay to do a clean-up or a private party was going to have to pay to do a clean-up - for DOE sites that value is seventy-five million dollars - and if the remedy costs more than seventy-five million dollars for a radioactive mixed waste clean-up, then you need to go in front of the National Remedy Review Board. The purpose is to determine if that's truly needed and if it's consistent with the national policy on a remedy for a similar type of project. There is no similar type of project for the Spent Nuclear Fuels Program, and our cost is way, way over seventy-five million dollars. So, we expect this to be a rather exciting little trip in front of the review board. But it's really to meet the congressional intent of getting national consistency in our remedies. The information that we're going to provide is really the basic information that we will have in the proposed plan, which examines the alternatives for mitigating the potential to release, and how to handle the waste materials and mitigate the risk from K-Basins. Kind of in a nut shell, that's what the Remedy Review Board is and that's what we get to do as EPA. Probably be in January of this year.

Kathy. And the other one is, you talk about your plan to go forward and you've got this plan for manning up the operations. You were going to reassess that, but have you already done that? I mean I thought I heard you say that you looked at the man-power, you've been looking at what it would take to do this, kind of re-looking at all aspects and doing all the scrubbing, and yet right here you're saying for your path forward you're still going to reassess. And if you're still going to do that, have you built that reassessment into your costs that you have projected right now?

Beth. What we have from the contractor is their proposal for how they're going to operate these facilities. They've gone through and done a very detailed evaluation and plan for how they're going to do this from a shift stand-point and how many workers and processes across the entire project. What people PAI, our independent review team that was looking at the cost on the basis of the baseline, the one item that they did come up with as a potential opportunity for us, was a different way of structuring that operational process. And so, I talked with my business manger today and said I want to get that on the schedule so we can sit down and go over this with the contractor and see if there's some opportunities. What they've come up with costs less and takes less people. So, we don't need to factor this into the baseline as far as being a more costly solution. We're looking for cost savings here, so that's not a concern to us from that standpoint. But, we need to go through and get this discussion done with the contractors so we can see and take advantage of, right now, any opportunities that we might be able to generate here. We

wanted to get through this baseline process and get this change control off our shoulders, and we have just recently done that. It's up for, it'll be approved sometime in the future by John Wager. So now, we're in a position to sit down and go talk this over.

Kathy. I'm just a little be confused about the safety analysis reports. You talk about the development and approval of those, and haven't those already been a consideration in your re-baseline project?

Beth. The safety analysis is the documentation process. It's not a, I mean it has resources associated with it and it has costs associated with the development of those products. But we, every DOE site and every nuclear facility in the country actually outside of commercial or DOE world, you have to produce something called the Safety Analysis Document, where you have sat down and analyzed, from a safety standpoint, the operations that are going on in a facility. You've addressed all the hazards, you've mitigated those and you develop some safety requirements that the operators will have to be careful of from a procedure standpoint while they're doing their job. And so, we're in the process of finalizing those documents. We have been looking at them throughout the last two years and a lot in the last year and last summer time period. So we have already looked at preliminary safety documents from a phased approach as we got through various stages of the various sub-projects. What we're heading into in fiscal year 1999 is getting those completed documents in the file basis upon which we're going to build our procedures and develop our training for the operators. Does that answer your question?

Kathy. Kind of. I guess what I was trying to...

Beth. It's the process that one has to go through and we're just in the middle of that process. You complete these documents after you've completed your designs and you've got something to really base it on from a completion standpoint.

Kathy. But you're planning on starting pretty quickly, so you already have to have your design pretty much completed right in order to do the safety basis.

Beth. Right.

Kathy. If you've got your design already established, and you sort of have this path forward, what happens if the public doesn't like that? I mean, you have to go before the public before you can actually go out and do this interim action, don't you? Or get some buy in from the public? You've got a lot of these things already done and set forward. What happens if there's...

Beth. We spent a lot of time three years ago - three and half, four years ago actually - working with the public on our path forward for the project, and what process we were going to go through. We pretty much kept true to form to that process. We went through a NEPA process where we detailed this and got public input on the various alternatives that were out there. The alternative we're walking down now is that process that was chosen three years ago. And, along the way, what we've done, I mean we go before the HEF subcommittee of the Hanford Advisory Board, and we talk about issues on the project. If we've got something new that comes up, the sludge for example, the chemical pretreatment. When we started this project we didn't know we were going to have to come up here and pre-treat that sludge. We thought we could just go dump it in a tank. Darn-it, there's some metallic particles in that sludge, and they oxidize and create hydrogen and the tank farms people don't want that their tanks for some reason. I

understand, of course. So we have to go through and chemically pre-treat that so it's in a chemically stable condition, so that it won't affect their tanks and operations to those tanks. And so, we went before the HEF subcommittee, I went out to all the Indian tribes, and asked their opinion, told them what was going on and said we're going to have to go through this process and would like your input on it. So we've tried to, as we hit anything like that, to take it before our constituents and the people that like to check in on our project on a pretty regular basis, and get the input.

???. We need to move into the public comment portion. The presenters have agreed to stay later to address any further questions, but since we want to get through the agenda on time, we'll go into the public comment portion at this time. And Marilyn Reeves, would you like to provide your comments?

Marilyn. My name is Marilyn Reeves and I'm testifying as a private citizen. I live in Amity, Oregon. I have a little bit of knowledge about the issues pertaining to the K-Basins, and I would just like to comment that there is a public and political perception that what causes costs to rise and causes delays to occur in environmental remedial actions is the regulator. If it were not for all of these regulations out here, we could do things much cheaper and much faster. And we would have no problem with all these, but you know we have all of these regulations, and their really not necessary. There is a perception out here that that is the case. And of course, with every perception you can find an example that's totally the opposite, and the K-Basins is the best example I think I've come across in many, many years of monitoring environmental projects. Clearly, at the time the Tri-Party Agreement was put in place, production, the Purex plant was still operating as I understand it, and the K-Basins were not considered to be waste – the material of the K-Basins. That was a product. In 1994, when the Hanford Advisory Board looked at the issues, we were looking at telling DOE that they had a waste on their hands, not a product. The Spent Fuel was not a suitable product. Probably by '94, those rods were not in condition to be used as a product, but be that as it may. So I think the comment that I'd like to make here is, I welcome the regulatory authority that the Environmental Protection Agency has given now, to this project. And I do believe that because of the effort of this regulatory authority, working in conjunction with DOE, we will have a more assured schedule, and we will have a more cost-effective schedule. And in this instance, I believe two heads are better than one at working on the project. This is not necessarily to offer criticism to DOE, but in my view there has been an effort made to first decide how much money do you think they might have that we can then put a bid in to get the project. Oh, maybe there's only seven hundred and fifty thousand. Well, we can do that for seven hundred and fifty thousand dollars because the process was always that we would add the cost later. And with the change-over, this was very good to do. You clean up, you cannot do that, because there are too many groups who have an opportunity to review the information and to know what's going on. And so, I think that in all of the lessons learned, this in one in which I hope those who want to criticize regulators as causing increased cost, as complicating the entire process and the schedule, would give credit where credit is due. Thank you.

Beth. Thank you Marilyn. Gale, are there any other? Okay.

Gale. (can't be heard)

Beth. At this point, is there anyone that would like to provide public comment for the record that didn't sign up initially. Thank you then. Thank you for your time and attendance. Good night.