Call to Order at 6:00 p.m.

Roll Call: City Council: Hamilton, Irish, Martinez
Absent: West, Stadtherr

WRITTEN COMMUNICATIONS
None.

ORAL COMMUNICATIONS
None.

Pledge of Allegiance Led by Mayor Pro Tem Irish
Invocation by Mayor Martinez

SCHEDULED MATTER

1. LAKE SUCCESS REMEDIATION PROJECT

Public Works Director Baldo Rodriguez introduced various members of the Army Corps of Engineers and the Tule Lake Basin Committee, including:

- Norbert Suter, Project Manager, Corps of Engineers
- Ronn Rose, Dam Safety Assurance Program Manager, Corps of Engineers
- Dwayne Urquhuart, Park Manager, Corps of Engineers
- Karen Wagner, Assistant Park Manager, Corps of Engineers
- Dan Vink, General Manager, Lower Tule River Irrigation District
- Brent Graham, Chairman, Tule River Improvement Joint Powers Agreement Assoc.
- Dick Schafer, Water Master

Mr. Rodriguez then turned the floor over to Norbert Suter, Project Manager, Corps of Engineers.

Mr. Suter stated that it was the Corps of Engineers’ responsibility to make certain that Success Dam continued to function and remained safe. He stated that during that evening’s meeting, he would present what the Corps of Engineers was currently doing and what it had done over the past few years with regard to the seismic problem at Lake Success. He stated that the two main areas on which the presentation would focus were the problem with the dam itself, and the seismic problem that could cause damage in the event of an earthquake of the right magnitude. He stated that he would also discuss the need to lower the pool level in the lake until the seismic fix could be completed. He stated that this particular project was one of two projects that was currently being run by the Corps at Success Lake, the other one being the Spillway Raise Project, which was to increase the height of the lake by approximately ten feet. Mr. Suter explained that this would basically double the flood protection for the City of Porterville, increase the water storage capacity by approximately thirty percent (30%), and also increase the recreational opportunities at the lake. Mr. Suter stated that his presentation that evening would not focus on that project, being that it was not really a part of the seismic problem. He pointed out, however, that the two projects were intertwined in that as a sponsor of the spillway raise project, the State had requested last week that the work be slowed until such time as a decision had been made on the seismic remediation project. Mr. Suter voiced support for that decision, and reassured the audience that the spillway project was not dead, but rather slowed until a decision had been
made on the remediation project. Mr. Suter then re-introduced Ronn Rose, Dam Safety Assurance Program Manager, Corps of Engineers. That program, he explained, conducted investigations of dams throughout the country using the latest engineering updates and seismic knowledge to ensure the safety of all dams. He stated that Mr. Rose had a great deal of involvement over the last several years with putting together the knowledge base which influenced the final decision for the Success Dam remediation, which decision would be discussed that evening.

Mr. Suter then presented an historical overview of Success Dam. He stated that in the early 1990s, the Corps had performed a routine dam safety assurance program investigation of the dam, and out of that examination, the Corps became concerned over the foundation of the dam. Mr. Suter explained that over the next four or five years, the Corps explored the lower depths of the dam to figure out exactly what had been occurring, and in 1999 believed it had a good idea as to the problem. In 2000, Congress appropriated the needed funds to allow the Corps to fix the problems identified. He stated that as the Corps began to prepare plans and specifications to correct the dam, additional drilling and boring evidenced that the extent of the problem originally identified was greater than had been originally thought in 1999. He stated that over the following two to three years, the Corps examined the dam further, and in the Spring of 2003, the Corps’ findings regarding the foundation were presented to a panel of international experts. He stated that those experts conferred with the Corps’ findings that there was a fairly significant problem in the foundation of the dam. He stated that at that point, the Corps took the available data and ran numerical and computer models to see how the dam would perform based on the underlying foundation weakness. He stated that the first results were available in October 2003 and showed that under the right earthquake, there would be problems with the dam. He stated that at that point, the Corps took the next step to determine the risk to the community. Mr. Suter explained that the Corps hired an international expert in dam safety to conduct a thorough study to determine whether or not the dam could continue to be operated as it had during the past forty years. He stated that in the Spring of 2004, the preliminary results indicated that the dam could not be operated to its gross pool elevation as it had in the past without exceeding some of the Federal guidelines in terms of dam safety. He stated as such, the Corps of Engineers in Sacramento placed an artificial restriction on the dam during Spring 2004, lowering the allowable water in the lake to about eighteen feet below its normal height. He pointed out that because of the drought, the level did not naturally exceed that height, so the artificial restriction passed unnoticed. Mr. Suter explained that during Summer 2004, a team consisting of multi-disciplined engineers, economists and environmental experts had been organized to investigate alternative approaches to correcting the problem. Mr. Suter explained that the best solution had been chosen last month, and that in November of this year the final height restriction would be determined. He stated that the height restriction would indicate the maximum height at which the dam could be operated until completion of the remediation.

Mr. Suter then explained that Success Dam was an earthen-filled dam made up of materials from the area immediately upstream, which was now Success Lake. He explained that the outer face of the rock layer protected the inner portion of the dam from erosion caused by rainfall and waves from the lake. He stated that in the center portion of the dam was a core made up of non-impervious material, like a clay, which kept water from seeping through the dam. On either side of that core, he explained, was a pervious shell which essentially held up the inner core. He stated that the problem with the dam was not with the dam itself, which was constructed in 1961 and met all known standards and requirements at that time, but rather with the foundation layer called “recent alluvium.” He stated that the recent alluvium layer was put down by the Tule River over a period of several thousand years and explained that when the layer settled, it was never consolidated or compacted in the way it should have been. He explained that when the dam was built, the recent alluvium layer was not known to be a concern in that the effects of earthquakes on that type of dam, on that type of foundation, had not been known at that time. He pointed out that the only area of the dam foundation that had been taken down to bedrock was the area directly underneath the core. He stated that there was no problem with the dam core, or the dam shells, but the problem was with the foundation layer of recent alluvium.
Mr. Suter explained that because the layer of recent alluvium had not been consolidated, during the shaking of an earthquake the materials would still have room to compress. He stated that the water from the lake would cause the soil to move and become liquified like jello, and in that case the foundation would be unable to support the material above it. He stated that in the case of Success Dam, under the right circumstances and the right type of earthquake, enough shaking could cause the material to liquify thereby causing the dam to fail. He explained that this was essentially the problem with the dam. He then reiterated that the dam had been built properly in terms of what actually got placed, but not in terms of what the dam materials were placed on. He stated, however, the problem of liquifaction was not known at the time the dam was constructed.

Mr. Suter stated that in 1999, the Corps of Engineers thought that the problem had been limited to a specific section of the dam, the repair for which Congress had appropriated $30.9 million. However, Mr. Suter explained, in preparation of addressing that specific area, the Corps discovered that the recent alluvium had extended quite a bit further and acted differently than previously thought. He then referred to a slide which illustrated the affected area to be approximately 40% to 50% of the dam. Mr. Suter then discussed two different types of earthquakes that could affect Success Dam. The first type, he explained, was one of moderately large magnitude with an epicenter in fairly close proximity to the dam. He stated that this type of earthquake caused strong shaking over a short period of time. The second type of earthquake, he explained, was of considerably larger magnitude with an epicenter at a farther distance from the dam, the effects of which would make the dam shake only a little, but for a longer duration. He stated that both of these types of earthquakes could cause problems with Success Dam.

Mr. Suter then referred to the San Andreas fault on a map, which he indicated to be approximately 72 miles from Success Dam. He explained that the type of earthquake that could cause damage to the dam from the San Andreas fault would be of an 8.0 magnitude, which he asserted was a very large earthquake. He stated that based on the latest studies conducted by the Corps of Engineers, an earthquake of that magnitude would cause damage to the dam. Mr. Suter then pointed to the Premier Fault, which he stated was located within 13 miles of the dam. He claimed that even though that fault’s return period for earthquake activity was less than once every 2,000 years, that fault was still located closely enough to the dam that if it produced an earthquake, it would cause severe damage. Mr. Suter also mentioned the Owens Valley fault and the White Wolf fault, both of which he stated also had the potential of impacting Success Dam.

He then discussed the Corps of Engineers’ criteria on assessing risks from earthquakes, and stated that such analysis involved looking at two types of earthquakes. The first was called the Maximum Credible Earthquake (“MCE”) which was the largest event that would ever occur at that site, with or without the dam. According to their analysis for Success Dam, he explained, the MCE would be from the Premier fault which was only 13 miles away, and would cause excessive shaking at the dam because of its close proximity. He stated that the magnitude was fairly high, but not an 8.0. He stated that according to the criteria of the Corps, Success Dam would have to withstand that earthquake and not release the water pool. Mr. Suter explained that the second type of earthquake considered in risk assessment was called an Operating Basis Earthquake (“OBB”), which he explained was a more frequent earthquake. He stated that the Corps would expect an OBB earthquake to happen at the site once every 140 years. He explained that such an earthquake would cause the ground at the subject location to shake or accelerate at one-tenth the force of gravity. Mr. Suter asserted that this type of earthquake could come from a variety of sources, one particular source being the San Andreas fault. He stated that an earthquake with a magnitude of 8.0 from that fault would be expected to accelerate at one-tenth the force of gravity. He then pointed out that an earthquake of that magnitude was expected to occur about once every 140 years, with the last recorded earthquake occurring back in the 1850s. If an earthquake like that were to occur today, Mr. Suter contended, the dam would incur damage.

Mr. Suter then presented a graph titled “Historic Earthquakes.” The graph identified various earthquakes that had impacted the area and gauged the “peak ground acceleration” or “PGA” of each, with the failure threshold for the dam being at .08 Gs. For each earthquake, the graph also tracked the worst case,
the best case, and the median PGA of each earthquake. Mr. Suter explained that only two earthquakes on the diagram, specifically the 1870 Owens Valley earthquake and the 1952 Kern earthquake, would have exceeded the failure threshold on all accounts. He pointed out that if the dam had been built in the 1940s, there was a high probability that the dam could have suffered some damage from the 1952 Kern earthquake. He pointed out that even with the best case PGA, Success Dam might have sustained damage.

Mr. Suter then described how a Maximum Credible Earthquake would affect Success Dam. He pointed out that such an earthquake would be the worst earthquake that could ever occur at Success Dam. He stated that when the parameters of the foundation of Success Dam were entered into their computer program, the analysis indicated that significant deformation would occur on the upstream face of the dam. He stated that while the Corps did not anticipate this happening as such an earthquake was not likely to occur, the only way to address this issue and keep the community safe would be to drop the water line below where it was currently allowed to stay.

Mr. Suter explained that during Summer 2004, the Corps looked at four different alternatives. He explained that the first alternative involved limiting the scope of the repair to only the location where recent alluvium was present. He explained, however, that the only way to do that without completely taking the dam down was to drill through the dam and insert columns of jet grout, which would have involved removing flood protection from the area. Mr. Suter stated that consultants determined that the project would require approximately 9,000 columns 9 feet in diameter on the upstream side. He explained that this alternative was rejected because it would have involved the destruction to the foundation of a significant portion of the downstream face of the dam, and the subsequent reconstruction of that portion. He stated that another less expensive alternative was also discussed that involved allowing the dam to fail, but strengthening the downstream slope of the dam by placing a 100 ft to 300 ft berm on that downstream face. He stated that while this scenario would have been less expensive, it did not meet the Corps of Engineer’s criteria. He stated that while this alternative would have prevented a catastrophic release of the water, it would not have prevented the dam from falling down on the upstream face, and therefore, it had been eliminated early on in the process. He explained that the remaining two alternatives involved constructing a new downstream earthen dam while leaving the existing dam in place to provide flood protection and allow some irrigation and recreational use. He indicated that the third alternative was problematic in that the borrow areas were questionable as to whether they would be accessible, depending on the elevation of Success Lake. Another problem, he explained, was that the third alternative had the largest footprint, which meant that it was not a good alternative from an environmental standpoint. He then pointed out that the alluvium under the upstream face would have remained underneath the earthen dam, which caused concern as to whether the problem would have truly been solved. He explained that the fourth alternative consisted of constructing a roller-compacted concrete dam (“RCC”) within the downstream footprint, the entire width of the downstream face of the dam, at the same height of the existing dam. Mr. Suter explained that once the new dam had been built, the top of the original dam would then be degraded so that it would be significantly below the concrete dam.

Mr. Suter explained that the fourth alternative consisting of the roller-compacted concrete dam seemed to the Corps of Engineers to provide the best solution to the problem at Success Dam. He stated that in terms of costs, the roller-compacted concrete dam was comparable to the earthen dam as well as to the jet routing alternative, although slightly more expensive than the other two alternatives. He asserted, however, that on a relative scale, the cost of the RCC dam was within five percent of the cost of the two other alternatives. Mr. Suter stated that this alternative made use of a proven technology and that once a part of the existing dam had been removed and the foundation exposed, the Corps would know the exact foundation on which the new dam would be built. He then asserted that the roller-compacted concrete method was a reliable technology, and pointed out that all of the other alternatives required a complete draining of the reservoir and loss of flood protection to the area during the construction period, whereas this alternative did not. He contended that one of the primary benefits of the roller-compacted concrete dam was that once the foundation area had been adequately prepared, the RCC dam could be constructed within approximately nine months.
He then discussed the next steps that the Corps would be taking in Sacramento. Mr. Suter stated that the Corps was currently attempting to move the RCC dam alternative through headquarters and Congress in order to obtain the necessary funding for the project. He stated that while the Corps believed this to be the right solution, the project was dependent upon Congress providing the money to go forward. He stated that currently the cost was estimated to be approximately $170 million to $200 million for construction, payment of which would be spread out over a five-year period with the bulk of the funds being budgeted during Fiscal Year 2008. Mr. Suter then explained that because many assumptions were made to reach that figure in order to prepare the various alternatives, the Corps would further refine that estimate. He pointed out, however, that such assumptions were made across all of the alternatives, so they should not have skewed the selection process. He then stated that the Corps had already initiated an environmental impact study that would analyze the effects of the roller-compacted concrete, and that some of those preliminary results indicated that while the RCC dam was not quite as good as the jet grout alternative, it was significantly better than the earthen dam as it minimally impacted the environment due to maintaining the same footprint of the existing dam. He stated that this Fall, the Corps would initiate a foundation and exploration program which would likely begin within the next few weeks. He stated that drilling would begin late this year, or early next year at the latest.

In terms of the re-operation, Mr. Suter stated that back in October 2003 when the Corps realized that the community might be at risk, it hired RAC Engineers and a world-renown economist, Dr. Bowles, who came up with a program to determine if the dam should be re-operated and if so, at what elevation to meet public safety standards. He pointed out that Dr. Bowles was experienced in this regard, pointing to his work with the Corps of Engineers, as well as in risk analysis work in other countries such as Great Britain and Australia. He explained the short term and long term risks associated with the dam identified by Dr. Bowles, and stated that a recommendation was made to lower the maximum level of the lake, with that maximum elevation being 620 feet, or 32 feet below the current gross pool of the lake. He stated that this was about 30% of the lake and that it was 29,000 acre feet versus the lake capacity at approximately 82,000 acre feet. Mr. Suter pointed out that this restriction would significantly impact the recreational use of the lake in those years when it naturally would have filled. He explained that the 620 acre foot elevation restriction reduced the threat of the water overtopping the dam, which was the most dangerous risk associated with the dam. He pointed out that if the dam were to sluff down approximately 20, 30 or more feet, the water might actually go over the top of the main structure, depending on the full gross pool and the effects of an earthquake. In that event, he explained, an almost instantaneous catastrophic failure would occur. Mr. Suter stated that by reducing the elevation by 70 feet, from an elevation of 690 feet to 620 feet, the risk of overtopping would be eliminated. He suggested that if the dam did fail to the extent that the Corps believed it might, it would be a delayed failure. He explained that the extent of failure would depend on how the inner core held up after an earthquake, and stated that if the core had been fractured, water could seep through that fracture, causing it to eventually widen. He stated that in the event of dam failure, the Corps had every expectation that the warning time would be sufficient to get everyone out of harm’s way. He indicated that this warning time could be greater than 10 hours, or even a few days. He stated that at a water elevation of 620 feet, the dam would meet safety standard around the rest of the country and the world.

He stated that the decision to go to 620 feet had been recommended by Dr. Bowles and that the Sacramento District Dam Safety Commission, a board comprised of senior managers. He indicated that the Dam Safety Commission would actually finalize its decision on November 12, 2004. Mr. Suter explained that the timeline for the remediation would be approximately five to six years and indicated that this was an aggressive estimate. At that point, Mr. Suter ended his formal presentation and opened the floor up to questions from the audience.

Audience Member Delores Garson identified herself as a resident of the Lakeside Mobile Home Park and asked 1) if the proposed construction would produce excessive dust and noise 2) how the construction would impact residents’ wells; and 3) if the Corps had any intentions of purchasing the mobile homes in the park.
Mr. Suter explained that the Corps had not yet decided if it would need to acquire the mobile home park, but that it did recognize that the residents of the mobile home park would be impacted by both noise and dust attributed to the construction. He explained that the Corps’ decision on how to handle the flow of water through the spillway would affect its decision on whether acquisition of the mobile home park would be necessary. Mr. Suter then stated that construction would be fairly continuous and that residents’ wells would be affected. He then explained that the environmental analysts would be on site to address all environmental impacts associated with the project, and that this would be considered as an impact.

In response to a question by an audience member, Mr. Suter provided more detail on roller-compacted concrete. He explained that the concrete was placed using a front loader while very dry, and then compacted with a roller. He stated that the benefit of the product was that the material went down very quickly and resulted in a very strong structure on a smaller footprint. He confirmed that the material was completely made out of concrete, and explained that while the concrete was wetted, it was not wetted to the degree of standard concrete. Mr. Suter then explained that roller-compacted concrete was not a new technology, and pointed to a large dam almost twice as high as Success Dam that had just recently been completed in San Diego. He pointed out that this technology was being used around the world.

An audience member asked about the future of the earthen dam and the current flow of water supporting the hydroelectric plant upon completion of the new dam.

Mr. Suter explained that once the new dam was in place, the earthen dam would be degraded down to a height lower than that of the new dam and explained that the materials would not be removed from the site. He explained that the concrete dam was a very narrow dam and that once it was constructed, the earthen dam materials might be used as backfill. In terms of the flow of water going to the hydroelectric power plant, Mr. Suter indicated that the Corps did not anticipate any changes, except during those times prior to the completion of the new dam when the water pool was being restricted. He pointed out, however, that once the new dam was in place, virtually no change would exist unless a new spillway was put in place.

Mr. Suter then referred to a diagram showing a triangular cross-section of the dam. He stated that the Corps would initiate test drilling to indicate whether or not the existing foundation would support the dam. He explained that the purpose of the preliminary drilling program was to determine whether or not the roller-compacted dam alternative would really work and asserted that the Corps believed that it would be 100% effective in the area in which the dam’s foundation is on bedrock. He stated that where the hill began to slope upward, extensive drilling would be required to determine if the weight of the concrete could be supported.

At the suggestion of Public Works Director Baldo Rodriguez, Mr. Suter then discussed the project’s funding sources. He explained that when the dam was originally built in the 1960s, the Federal government had paid 90.5% of the total cost, and because the dam was considered a “dual purpose” dam, the local irrigation districts had paid the remaining 9.5%. He stated that while the dam’s primary purpose was to provide flood control to the area, in order to take advantage of the opportunity to store water for irrigation and recreational use, the local partners paid almost 10% of the cost of the original dam. Mr. Suter explained that pursuant to the Water Resources Development Act of 1986, the share of the local agency that contributed to the dam’s original construction would only be 15% of what that agency originally paid. As such, he explained, the Federal government would be paying approximately 98.6% of the cost, with local contribution being approximately 1.4%. He explained that there would be no cost to the City of Porterville or to the taxpayers.

An audience member questioned how the irrigation district below the dam would be affected, in terms of costs and water flows.
Mr. Suter explained that currently the Corps had been looking at the water control diagrams which indicated on a monthly basis the level at which the lake needed to be. He pointed out that the amount of water passing into the lake was uncontrollable, and that the Corps could only control storage. He stated that he believed there would be earlier releases of water in the spring, which normally would have been held until later in the Summer. He stated that there would be an impact on irrigation, and that the Corps had been working with local districts to minimize that impact.

In response to a question from the audience, Mr. Suter responded that he was uncertain as to how the Corps would proceed with acquiring the mobile homes, if they ultimately decided to purchase the mobile homes. He clarified that when the government acquired property, it had a responsibility to the property owners to make certain they were relocated and fairly compensated.

Mr. Suter then informed the audience that the Corps intended to set up a website to provide information to the public and that, when that website was up, he would provide the address to Mr. Rodriguez to share with the community.

An audience member questioned if the Corps had projected a minimum level for the lake, and if so, if it would be lower than this year’s 4,800 acre feet.

Mr. Suter stated that he believed that the level rose to 630 feet this year, and while he could not speak for the irrigation uses, he imagined that low levels would occur. He then stated that not draining the lake was one of the constraints in the selection process, and pointed out that there was another alternative which would have been to remove the affected area of the dam to repair the damage. He stated, however, this method would have provided no flood protection.

In response to a question from the audience, Mr. Suter explained that the Corps had projected five years from start to finish on the project, which he asserted was a very aggressive schedule.

An audience member then voiced concern with the difference between the proposed timing of water releases and when the water was actually needed for irrigating crops.

Mr. Suter apologized for the inconvenience that would be created and stated that the Corps would hopefully be able to work with the irrigation districts to minimize the impact. He pointed out that there was no easy solution to the problem.

Audience Member Ted Cornell asked if the water level could be raised as the dam construction approached its final stages.

Mr. Suter responded that this might be an option, although he pointed out that because the actual construction of the dam would take less than one year, between fall and spring, that option might not come into play. He then stated that once the project had been started, all attempts would be made to complete the project before the spring run-off.

In response to a question from the audience, Mr. Suter stated that the economic loss attributable to the lowered level of the lake was projected by the Corps’ consultants to be approximately $2.8 million per year, considering irrigation and recreational uses.

An audience member then questioned if the west side of the lake would be accessible during the construction of the new dam.

Mr. Suter responded that closure of the west side of the lake was not anticipated by the Corps, and suggested that one of the fortunate factors in selecting the RCC method, was that the Corps might be able
to raise the spillway at the same time. In that case, he pointed out, some restrictions on that roadway might be necessary.

In response to audience member Russell “Buck” Fletcher’s question as to whether the repair would be permanent, Mr. Suter responded that the lifespan of the roller-compacted cement dam was one of the factors that had been considered in the selection process. He stated that roller-compacted concrete was a proven technology that should last for 100 years, and should be able to withstand intermediate earthquakes with no problem.

An audience member questioned the critical path of completing the project within five years.

Mr. Suter stated that the critical path was securing funding from Congress, but that the Corps had been proceeding as if the funds would be appropriated. He stated that $4 million had been budgeted this year, and that all of those funds had already been spent during the exploration program. He stated that once the funds were secured, it was a question of relating the urgency of the project to Congress. Mr. Suter then confirmed that efforts through the media and local organizations were being made to work with local representatives to inform Congress, and confirmed that project hinged upon acquiring funding from Congress. Mr. Suter then pointed out that Corps’ five year estimate had been based on the assumption that everything went smoothly, and suggested that the project could take longer.

At the suggestion of Public Works Director Baldo Rodriguez, Mr. Suter then explained the emergency system currently utilized by the Corps at the dam. He stated that monitoring sensors were in position throughout the dam, and that those sensors were connected to an automatic dialing system. In the event those sensors detected anything out of the ordinary, the system would first alert Dwayne Urquhart, the Park Manager, and if unavailable, would continue to dial the back-up personnel. He stated that the call list had several layers, including Emergency Management in Sacramento. Once notified, he stated, the first responder would personally inspect the dam to see if any movement had occurred.

A ten minute recess was taken at 7:00 p.m.

Mr. Suter then continued to take questions from the audience. In response to a question, he explained that there was no level of water that would be low enough to make the dam safe. He explained that even if no water had been stored in the lake and the river had been allowed to flow directly through the outlet, the dam could not remain in its current condition. He explained that the Corps could not have a dam in place that it knew would fail. He stated that the dam would either have to come down, or it would need to be fixed. These two options, Mr. Suter explained, were the only two options at this point. He explained that the only reason the dam could maintain a water level of 620 feet was because risk analysis indicated that for such a short window of time, the chances of having a large storm fill the reservoir and have an earthquake also occur within that same window were minimal. He reiterated that the dam either needed to be fixed or removed, and during the time until a decision was made, the water level of the lake needed to be restricted.

An audience member voiced concern that the Porterville community was going to have to live with that risk for the next five or more years until the dam is either fixed or removed.

Mr. Suter commented that the risk actually met current guidelines of dams around the world. He stated that, for example, he lived in Sacramento and that the residents of Sacramento lived underneath the Folsom Dam, which also had problems. He pointed out that the levees around Sacramento also had problems. He stated that although everyone knew of such problems, they still chose to live there. He stated that while he was not discounting the risk, anytime one lived below a dam or near a river, there were associated risks.
Dan Vink, General Manager, Lower Tule River Irrigation District, clarified that when Mr. Suter spoke of “failure,” he was not referring to a “Hollywood special effects” type failure, in that it was not an instantaneous collapsing of the dam.

Mr. Suter stated that an earthquake could make the dam come down at the lower levels, and depending on whether or not the central core had been damaged, it might or might not release water. He stated that if the core remained in tact, no water would be released. If the core had been damaged and water found its way to those cracks, that water would eventually start to leak through. He stated that over time, perhaps ten hours or several days, the seepage through such a crack would eventually grow. He indicated that meanwhile, the Corps would release water as quickly as possible through the outlets, but there would be a potential risk of flooding, even with the pool at 620 feet.

Ronn Rose, Dam Safety Assurance Program Manager, stressed that if there had not been a reservoir restriction in place, an instantaneous-type failure could occur if the pool of water was high, and a large impact earthquake hit causing the dam to slump enough so as to allow the water to flow over the top of the dam. Mr. Rose pointed out, however, that even without the reservoir restriction, that type of scenario posed an extremely small risk. Mr. Rose stated that the reservoir restriction basically eliminated that type of failure, and indicated that the only risk would be the type of failure consisting of a gradual leakage with an approximate ten hour warning. Mr. Rose then confirmed that the risk assessment included the historical seasonal levels of the lake and pointed out that the maximum level of 620 feet was to minimize the time that the lake would be at a high level.

In response to a question from the audience, Mr. Suter addressed the risk factor during the construction phase. He explained that a portion of the downstream face would be excavated to expose its footing, but that the entire length of the dam would not need to be opened at once, but rather in sections. He cited a large dam the Corps was remediating in South Carolina with a similar liquifaction problem, and pointed out that the Corps had opted to work in 300 foot increments on that dam. He stated that this approach would be considered for Success Dam.

Mr. Suter then explained that the Corps had estimated two years for the design phase, which he suggested was quite aggressive. He then pointed out that the window of time for placing the concrete was restrictive due to weather, and that the construction phase would need to begin in September and be completed by late April or May. He explained that the Corps did not wish to have the construction continue into the summer months when the temperature was too high. He stated that even in the early fall and/or late spring, some of the concrete and aggregate would likely need to be chilled for use because of the hydration process on such a large project. He explained that because the opportunity to place the concrete was limited, if the concrete phase could not begin in September, the contractor might choose to wait until the following season.

Dan Vink, General Manager, Lower Tule River Irrigation District, commented that as the general manager of the irrigation district that would be most impacted, he wished to inform the audience that everything that could be done was being done. He stated that his district and the Corps were working with a Congressional delegation to attempt to get funding. He suggested that the project depended upon how quickly Congress appropriated the necessary funds, and the amount of funds that was ultimately appropriated. He stated that the local U.S. Representatives, Congressmen Nunes and Dooley, had been well-briefed and had been working with the Corps. He stated that in December, a team would head to Washington D.C. to meet with the Corps of Engineers in the Office of Management and Budget. He assured the audience that the necessary steps in securing the safety of the community were being taken. He then pointed out that while there might be an inclination to blame the Corps of Engineers for the problems with the dam, he wished to inform the audience that the Corps had done a fantastic job in working on this matter. He stated that the selection of a remediation solution in such a quick time frame was commendable, particularly in such a bureaucratic environment. He asserted that the Corps was working as allies of the local community, and
stated that in his opinion, the best approach was to remediate the dam as soon as possible. He stated that there would be impacts on the locals, and that the only way to minimize those impacts was to get the project started and finished as soon as possible. He stated that those efforts were currently under way.

In response to a question from an audience member, Mr. Suter confirmed that almost all of the funding would be covered by the Federal government, with the balance being paid by the original cost-share partners on the original dam.

Mr. Vink elaborated that the original cost-share partners were the local irrigation districts and water supply interests. He stated that the 1.4% of the total cost that would be sought from those combined agencies would not be due up front, but rather amortized over a thirty year period with a low interest rate.

Mr. Suter then explained the test drilling phase, and estimated that the drilling would realistically begin by January 2005 at the latest. He pointed out that the drilling process was not an invasive procedure, and that the residents in close proximity might not even be aware it was happening. He explained that generally the drilling team generally was comprised of 2 to 4 people, and that the Corps was currently in the process of determining the location of the test sites for sampling purposes, which might total approximately 20 to 30.

In terms of the environmental impact analysis, Mr. Suter explained that the same individual that had worked with the Corps in selecting a remediation method was assembling a team to begin the environmental report. He stated that the analysis would likely begin in the next month or two, and that some of the work had already been done, such as identification of Elderberry Bushes and the amount of acreage needed for mitigation. He indicated that issues such as the effects on the mobile home park would also be addressed in the report.

Mr. Suter then informed the audience that photographs of the original construction of the dam were available for interested individuals to view at the end of the meeting.

In response to an audience member’s question, Mr. Rose informed the audience that the original cost of the dam was $14.3 million, which Mr. Suter pointed out had been estimated by a Corps’ economist to equal approximately $180 million in today’s terms.

Mr. Suter then concluded the question and answer session, at which time the Mayor thanked the Corps of Engineers for the informative presentation.

ORAL COMMUNICATIONS

An audience member asked how the Corps handled the build-up of silt and if that build-up would eventually affect the capacity of the dam.

Mr. Suter responded that sedimentation was a problem at every dam. He explained that because the river slowed upon reaching the lake pool, it naturally dropped the sediment carried by flowing river water. He stated that the was unaware of the siltation rate for Lake Success, but that all the dams faced the same problem. He stated with certainty that the capacity of the lake did shrink over time, and that he did not know of any efforts underway to deal with the siltation.

Dwayne Urquhart, Park Manager, stated that the siltation rate for Lake Success was 80 acre feet per year, and that approximately 3,500 acre feet had been lost thus far.
City Manager John Longley stated that the public often asked for information on that topic, and questioned if there was a process currently underway to deal with the problem. He stated that he had heard that some dredging of the lake had been planned.

Mr. Urquhart responded that work had begun, but that the Corps had not gotten to the point where material could be taken out. He stated that the environmental work had been completed, and that it was just a matter of coming to a satisfactory resolution.

Audience Member Mitch Brown stated that he had been attempting to enter into an agreement with the Corps to dredge the lake, but thus far those attempts had been unsuccessful.

Public Works Director Baldo Rodriguez questioned how the concrete materials would be transported to the site and where the mixing of the materials would take place.

Mr. Suter explained that the Corps hoped to obtain the materials from the lake, and that the drilling process would identify whether or not this would be possible. He pointed out, however, that the cement and water would need to be trucked to the site. He explained that a batch plant with a capacity of approximately 600 cubic yards per hour would be set up, with a goal of placing 300 cubic yards per hour for a period of six to nine months. He stated that this was a very fast, high production scenario in which the materials were fed into conveyors and deposited right up onto the dam. He stated that if the Corps was unable to get all of the materials from the lake, local quarries would be utilized.

Mayor Martinez again thanked the Corps of Engineers for their presentation and acknowledged California Assemblyman Bill Maze and Tulare County Supervisor Jim Maples who were also present. He then thanked everyone for coming and participating in the discussion.

**ADJOURNMENT** - at 7:40 p.m. to November 2, 2004.

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Patrice Hildreth, Deputy City Clerk

SEAL

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Pedro R. Martinez, Mayor