

## **Citizens' Oversight Projects (COPs)**

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**CITIZENS' OVERSIGHT PROJECTS**

CitizensOversight.org

# **Citizens' Oversight Explains the Settlement Phase of Nuclear Waste Lawsuit**

written by **Ray Lutz**

## **Introduction**

We have been receiving numerous questions from our members and supporters regarding the recent announcement that the parties have agreed to enter a settlement phase related to our lawsuit to revoke the permit to build a nuclear storage facility at the site of the San Onofre Nuclear Generation Station (SONGS), only 100 feet from the ocean and inches over the high-water mark, in an earthquake and tsunami inundation zone and near millions of residents.

Since we are a party in the case, we can't comment on many things many want to know, such as a) our position in the settlement, b) how we think this affects our case, c) what the motivations are of our opponents, or d) anything we might learn about our opponents in the settlement process. However, we can comment on the background of the case and the general nature of settlements so you understand where we are in the process and what to expect based on a generic understanding of settlements.

## **Background**

### **SONGS Shutdown**

On January 31, 2012, the southernmost dome at SONGS, Unit 3, experienced an emergency shutdown due to a leak of radioactive water inside the newly installed steam generator. Unit 2 was in a refueling outage at that time. Inspections of the steam generators resulted in an understanding that the tubes containing high-pressure radioactive water were vibrating as the steam was produced (each steam generator has about 10,000 tubes, each 0.75 inch in diameter, with walls about as thin as the thickness of a dime). This vibration resulted in tube-to-tube wear and eventually causing a small but growing leak. The water inside these tubes is radioactive, extremely hot (650 degrees F) and under very high pressure (2500 psi), so even a pinhole will quickly expand into a major catastrophe.

Luckily, this was detected in time and operators of the plant correctly and safely shut the plant down without releasing much radioactive material to the environment (or at least they claim). Later inspections of the tubes showed that hundreds of tubes had experienced excessive wear that was not expected to occur for decades. After toying with the option of restarting Unit 2 at 70% capacity, Southern California Edison

(SCE), the operator of the plant, announced on June 6, 2013, that the plant would be shut down permanently.

## Post-Shutdown Projects

After shutdown, this started three projects:

1) **DET. SHUTDOWN COSTS** -- Determine who (shareholders vs. ratepayers) should shoulder the costs of the shutdown. The proceedings of the CPUC (California Utilities Commission) into the shutdown was to do this. Citizens Oversight was involved in this process as an intervenor (as the “Coalition to Decommission San Onofre”) and also filed a lawsuit in federal court prior to discovering that the whole initial settlement was rigged by the former president of the CPUC, Michael Peevey who met improperly with SCE executives at a posh hotel in Warsaw Poland in early 2013. Now, we are in talks with the utilities about renegotiating the \$3.3 billion settlement that resulted from those tainted *ex parte* meetings.

2) **DECOMMISSIONING** -- The actual decommissioning project, in terms of dismantling the plant and removing radioactivity that may remain so as to return the site to general purpose use. To do this, a fund is required by the NRC (Nuclear Regulatory Commission) which was funded by customers of the energy used over the years the plant was in operation. The estimated cost of this project is estimated to be \$4.4 billion. The fund has adequate funds and so there should be no more charges to customers at this point for this work.

3) **NUCLEAR WASTE** -- This project must deal with the radioactive spent nuclear fuel and other radioactive components (called “Greater than Class-C Waste” or GCCW.) This is an unfortunate part about nuclear power, we have to deal with a large and ever growing amount of lethal and dangerous “spent fuel.” The name is misleading because the fuel pellets, which are about the size of a pencil eraser, look like they are brand new even when they are considered “spent.” Only about 3% of their fission properties have been used up. But what is even more surprising, given the name, is that they are more dangerous than the uranium when it is new. This project is what this current lawsuit is about.

## Long term waste problem not yet solved

When the nuclear industry was getting started, there was a great desire by the government to promote and enable the industry. To do that, they told the plant operators that they essentially could run these plants and not worry about the waste. The thought at the time was that it could be reprocessed and used for other purposes or stored in a number of geologic repositories. Reprocessing was halted in 1974 when India demonstrated the creation of a nuclear weapon made from spent plutonium gained from “peaceful” nuclear uses.

So we are left with storing it somewhere safe. The problem is daunting, because the waste, if left the way it is, can remain lethal for many thousands of years, sometimes up to 250,000 years (actually some isotopes have a half-life of 9 million years). Since mankind has only recorded history for about 6,000 years and we have been technically competent to deal with the problem for only a few decades, to claim we can even do this is a pipe-dream at best.

Those who promoted nuclear power glossed over the gory details and complexities, and they settled on a geologic repository to be built at Yucca Mountain, Nevada. This site was chosen not because it was the absolute best site from a geologic standpoint but more because it was already somewhat radioactive due to nuclear weapons tested in that vicinity, and no one else wanted it in their backyard, and Nevada was a relatively weak state.

Yucca Mountain was much more difficult than they imagined, coupled with the fact that they really did not know what they were getting into. The site has multiple geologic faults running through it and ground water issues. But politicians and nuclear energy proponents distilled it down to only a political issue, with Senator Harry Reid of Nevada being the scapegoat, rather than the difficult technical issues which really do exist.

The Obama administration put the whole thing on hold, but it has recently been continued. Contacts in environmental groups have said that they will continue to block it and unless all environmental concerns are cast aside, it will never open.

## **Fuel Pools Packed to their limit, Dry Storage Developed**

When SONGS was built, there was a guarantee by the Department of Energy (DOE) to accept spent fuel and store it at some facility by 1997. So nuclear plants were built with spent fuel pools to store spent fuel under water, where it can be cooled, and where the water is an effective way to absorb radioactive particles that are emitted. DOE did not start and has not started accepting spent fuel, and they have been running for another 20 years. At first, they dealt with this problem by increasing the packing density in the fuel pools to the point that they are packed as close as in the reactor but separated by boron separator boxes to avoid “criticality” -- the term used to describe a sustaining nuclear reaction.

So they were up against the wall and needed a quick solution, and they developed a method of storing the spent fuel assemblies in “dry cask” storage facilities. But the name is a bit of a misnomer, again, because the heavy and thick casks that you might imagine are not used and instead, relatively thin (1/2” to 5/8”) stainless steel cylindrical canisters are used, about six feet in diameter, 16 to 18 feet long, and 109,000 pounds when loaded -- about the same weight as four large school buses.

These canisters have to be put into an “overpack,” to absorb the radiation (usually surrounded with concrete) but they must also be air-cooled. They are really hot. The surface temperature of the canisters can easily be 400 degrees F, as the temperature limit of the zirconium cladding surrounding the fuel pellets inside the canister is 752 degrees F. However, the actual surface temperature may be less depending on how long they have cooled. The first few years and decades are when the material is the most dangerous from a radioactive emissions standpoint, and it's also when they will be the hottest.

The canisters developed were optimized for local short-term storage, with the operators still hopeful that the DOE would be picking up the spent fuel. Most operators routinely sue the DOE for failing to pick up the fuel to fund their local storage operation. SCE says those lawsuits are generally successful.

## **Safely Transportable?**

The NRC mandated that newer canisters had to be “dual purpose” in that the design had to be transportable. Usually this design constraint is met by inserting the thin and heavy canisters into a “transport overpack” which can protect the canister from harm during transportation, or at least they claim it will be safe, even if the canisters are dropped from 30 feet on a flat surface or onto a spike. Unfortunately, they are so big and heavy that no one has ever actually tested the models with full-sized canisters and their overpacks.

Transportation can't be attempted until the canisters are cool enough to be placed in the overpack and still keep the cladding below the 400C limit. We are told by SCE that almost all the fuel assemblies at SONGS have cooled enough to be transported right away, although there are some from the Unit 1 reactor that are of a different design and must cool quite a bit longer before they can be transported. This issue is one question we still need to have clearly resolved.

Transportation is not easy, because the canister + overpack combination are usually about 140 to 160 tons, too heavy for a conventional rail car (140 tons gross weight) or semi-truck (40 ton GVW limit) mostly due to the ability of bridges to hold that weight. To handle the additional weight, special trucks or rail cars must be used that spread the weight out and routes must be chosen to avoid bridges that are not up to the job. We have been told by a company that specializes in the transportation of spent fuel that they can do it, and SCE has recently started a project to design a rail car that can be used with the canisters that exist.

## **ISFSIs at Nuclear Reactors**

The industry calls the dry storage facility an “Independent Spent Fuel Storage Installation” or ISFSI (pronounced “ISS-FIS-SEE”). The NRC allows any plant to install an ISFSI at any plant (with an additional and separate license) to deal with the full-to-overflowing spent fuel pools. Again, these were intended to be short-term storage that they were still thinking would be soon picked up by the DOE.

But recently, the whole concept changed when the NRC published the “Waste Confidence Generic Environmental Impact Statement”<sup>1</sup> that allows plants to keep spent fuel in their ISFSI “indefinitely.” This brings up the option and perhaps the likely scenario, that any spent fuel put into an ISFSI may never be moved again, given the poor record of the nuclear industry regarding nuclear waste combined with the desire of the for-profit utilities to cut costs and do no more than absolutely necessary.

## **Dry Storage vs. Fuel Pool**

Both the fuel pools and ISFSIs have been approved by the NRC and are deemed “reasonably safe.” However, the Union of Concerned Scientists and others have commented on the relative safety of dry storage versus fuel pools, given that fuel pools must be actively cooled, have been packed too tightly, and the use of hotter “high burn-up” fuel. They conclude that dry storage is safer because if there is a big disaster, then even if a few canisters are breached, it would be better than if the fuel pool would lose enough water so the fuel is exposed to the air, and then the zirconium cladding may start to burn.

We must note that many nuclear plants have the spent fuel pools three-stories up (like those at Fukushima and most Mark-I type boiling water reactors), rather than at ground level, the design at SONGS. The fuel pools at SONGS are considered safe, are enclosed in a building, were expected to last through the extended life of the plant after replacement of the steam generators (another 30 to 40 years) with no problem, and they no longer use ocean water for cooling, but use large refrigerator units to cool the water.

Although we agree with moving the fuel from the fuel pools as soon as practicable, we do not view the proposed new ISFSI to be the wise course especially as other options are quickly becoming available and the proposed canisters are too big and too hot for any geologic repository.

## **The Proposed New ISFSI**

The new ISFSI proposed by SCE at SONGS uses the Holtec UMAX dry storage system which has many desirable features and in many situations may be the best choice on the market. The use of this system at SONGS, however, is problematic. Any system must be viewed as permanent as there is no mechanism we can use to get them to move it once it is installed.

The location where they plan to install the new ISFSI is only 100 feet from the ocean, only inches over the high-water mark, near a newly identified 7.4 magnitude earthquake fault line, in a tsunami inundation area, and near millions of residents. The fact that it is so near the ocean puts the entire fragile coastal ecosystem at risk.

1 <https://www.nrc.gov/docs/ML1322/ML13224A106.pdf>

## **The California Coastal Commission**

The California Coastal Commission (CCC) is responsible for the lands along the coast and SCE filed an application to install the ISFSI. Contrary to intuition, another governmental agency, the State Lands Commission is responsible for the state territory under the water and near the coast, and owned by the public. That agency eventually became the lead agency for the entire decommissioning project, not including the ISFSI, which they treated separately and in advance of the decommissioning project itself. They claim the CCC process is equivalent to a normal CEQA (California Environmental Quality Act) process.

But the process of the CCC was hardly fair or complete. Although SCE has a “Community Engagement Panel” which is supposed to keep the public involved, the CCC permit application was ever mentioned in those meetings. The CCC had multiple contacts with SCE prior to the hearing. Then on October 6, 2015 the CCC had a 90 minute hearing on the permit in Long Beach where the public had only two minutes each to make comments. We only found out about the hearing about a week before it was to be held and struggled to get prepared with such short notice.

Prior to the meeting, we and other activists were able to get San Diego County Board of Supervisors to draft a letter to the CCC objecting to the ISFSI on the coast. Unfortunately, San Diego County Supervisor Greg Cox, who sits on the CCC, voted for the permit and minimized the objection by San Diego County. Later, San Diego County Supervisor Diane Jacob and Ron Roberts said they would start a project to look into the matter, but nothing was done other than just say they were starting it.

The CCC chair did not conduct a clean vote, but just looked for objections to a unanimous vote. Ray Lutz, representing Citizens Oversight spoke up and called for a roll-call vote, which they then had to take or it would appear they had avoided it, although they castigated Lutz for speaking up.

The CCC added some special conditions to the approval, including that an Aging Management Program and technology to inspect the canisters must be available 19.5 years later, 6 months before the end of the permit. But just imagine if these conditions were not met, would they then revoke the permit, and force SCE to remove the ISFSI? Hardly likely. Once it was installed, those special conditions are meaningless unless they are required to be fulfilled prior to granting the initial permit. Once installed, it will cost millions to move the canisters somewhere else, with risk of accident with each handling of the canisters. They can always say they can't find a good place for it, so it will stay there forever, far too close to the ocean to be reasonable.

One of the big concerns about this location is the salt ocean environment. Anyone who lives on the coast will tell you that any steel will quickly corrode. It is true that with the canisters so hot, no corrosion will likely start, but researchers know that chloride induced stress corrosion cracking (CISCC) will start once the surface temperature drops below 85° C (185° F). There is reasonable and serious concern that once it comes time to remove these canisters from the ISFSI, CISCC may have started, and the canisters may have lost integrity so that transportation will be difficult. There is no guarantee that the canisters will even be able to be extracted from the subterranean vault.

SCE has proposed removing the fuel pools once the fuel is all moved to the new ISFSI. However, if any canister should become breached, then it may be necessary to immerse the canister in a fuel pool to gain control of a canister that may be burning internally due to contact with the air, and remove the fuel assemblies and then place them in a new canister.

## **Our Lawsuit**

To be able to challenge an action of the CCC, a member of the public or organization must have objected to the permit at the meeting of October 6, 2015. Citizens Oversight became the leading plaintiff. Patricia

Borchmann of Escondido had been carefully following the San Onofre shutdown and this project and she was also included in the list of plaintiffs. The attorney firm of Aguirre & Severson, LLP is handling the case. The case was filed in Superior Court on November 3, 2015, a “Writ for Administrative Mandate and Complaint for Declaratory Relief.”

After several rounds of attempts to sideline the case by SCE, Judge Judith Hayes ruled that the case would move forward on November 9, 2016. Additional briefs were filed in preparation for a hearing.

Remarkably, Attorney General Becerra also filed a brief in support of the permit on March 6, 2017.

Finally, a hearing on the matter was scheduled for April 14, 2017. One week before the hearing, SCE announced they were accepting the offer to sit down and go over possible resolutions.

## Settlement

In civil cases in the U.S., settling cases is by a far the norm, with fully 97% of cases being resolved by settling rather than a court trial. And in those last 3%, probably 2% try to settle and wind up going to trial. Only probably 1% go directly to resolution by a judge or jury. In this action, our complaint is a Writ of Mandamus and Complaint for Administrative Relief, essentially, asking the court to compel the CCC to follow the law, we believe, and deny the permit.

So there is nothing to be read into the decision to open settlement negotiations.

## Three Top Concerns

**1. Respect Confidentiality Required by Evidence Code:** It is required by the evidence code that we cannot disclose information that may be revealed to us in the settlement process. So we must respect that if we are to be successful in getting our settlement process eventually endorsed by the court.

**2. Respect Legal Position:** We don't want to contaminate our case or undermine our position should we have to eventually give up on settlement and continue litigation. So what we say will be somewhat limited due to that fact. Please understand that our agenda is to move the fuel away from this very tenuous position on the shoreline to a much more responsible location, rather than to find a way to allow it to be placed at that location.

**3. Activate the public:** Despite those first concerns, it is our intent to embrace involvement by the community in this very difficult problem we have inherited. We plan to conduct a number of public meetings where the public can engage, to provide their concerns, ideas, thoughts, and perhaps even favorite solutions. Edison's Community Engagement Panel has been meeting for several years and has promoted Edison's point of view very well, while giving no structured time to contrary points of view. We expect that we can provide a conduit for information from the public to the settlement process, and as such, our job will be to listen and record information we receive and to coalesce what we get so it can be provided to the settlement negotiations process.

We anticipate multiple meetings in each of the closest counties to the plant, in Orange County (OC) and San Diego County (SDC)

## What Happens in Settlement Meetings?

Settlement is a form of “Alternative Dispute Resolution” (ADR) which moves the process out of typical litigation process, and moves it to a more cooperative approach, which might be better if the subject is complex or if resolution requires any creativity to solve. Litigation procedures are well suited to determine what happened in the past and who was at fault. If what is required is creative and cooperative, then it is the wrong approach.

If the parties can't easily work together, or if the stakes are very high, a professional mediator can be hired to help conduct productive meetings, where the mediator can meet separately with each side and jockey back and forth until a solution is found that is the best fit to all the constraints.

This is a very difficult issue because it is not enough just to block installation of the nuclear waste facility 100 feet from the water and only inches over the high-water mark, at the end of the day, we must also find a place for the waste because it is not going away.

Unlike some settlement discussions, this is not about trying to find how much money they can pay to get us to stop pestering them. Our agenda is to block the plan to store nuclear waste on the beach and move it to a better and safer location.

The settlement process will include the use of subject-matter experts who can help us find an alternative location and cut through the red-tape stopping alternative solutions.

## **Conclusion**

The process to block this nuclear waste “dump” in this unreasonable location has taken a very long time, and there has been very little opportunity for the public to speak out. We hope you will help us get as many people as possible to be involved in our community participation “town hall” meetings so we can effectively provide as much information as possible to the settlement process.

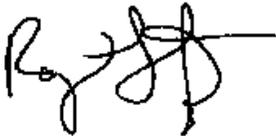
## **More Information**

Please visit this page for the latest information, news coverage, announcements, and court filings:

<http://copswiki.org/Common/StopNukeDump>

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Sincerely,

A handwritten signature in black ink, appearing to read 'Ray Lutz', with a stylized flourish extending to the right.

Raymond Lutz  
National Coordinator, Citizens' Oversight Projects