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Subject: Docket Number: 20-LITHIUM-1

Title: “Comment on Draft Report of the Blue Ribbon Commission on Lithium Extraction in California Pursuant to Assembly Bill 1657 (E. Garcia, Chapter 271, Statutes of 2020) – by Nikola Lakic

To all involved in making the final decision on lithium extraction from geothermal brine in the Salton Sea area:

Community engagement is a priority for the Commission and AB 1657 authorized the Blue Ribbon Commission to obtain and consider public input to develop findings and recommendations on the eight topics. The Commission’s work also intersects with other important policy initiatives in the region. These include the state’s efforts to implement the Salton Sea Management Plan, and its broader policy goals to strengthen climate change resilience, advance zero-carbon, and renewable energy technologies, and reduce greenhouse.

During the last two years, I submitted numerous public comments to the Commission criticizing the process and offering my expertise to explain to Commissioners how we can solve the current problem. Unfortunately, I have never been invited to the Blue Ribbon Commission to make a presentation and answer questions directly.

Knowing who the Chair and Co-Chair are, is not a surprise. Salton Sea Authority through Pacific Institute has a long tentacle.

By the way, I have made quite a few presentations at several universities and at international congresses since 2015 including SMU, Dallas, Texas, and World Geothermal Congress in Reykjavik, Iceland, (three presentations in two days) with the title: “Harnessing Water and Energy in the Salton Sea”.



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FACTS:

The “current course of action” in the region of the Salton Sea consists of two main projects that are in serious conflict - they are not coexistent (synchronized) **a)** Extraction of lithium from geothermal brine that is based on a smaller Lake that has an exposed lakebed (playa) and requires related expensive dust suppression projects; and **b)** Restoration of the Salton Sea that is based on the importation of seawater.

Those two concepts (**a** and **b**) are in conflict because there is no logical explanation for continuing with a smaller Lake that would have soon 200 square miles of the exposed lakebed (playa) and related expensive dust suppression projects that are doomed to fail because there is no water to support such dust suppression projects, and at the same time talking about importing seawater that would flood those dust suppression projects. Also, there is no logical explanation for continuing with a smaller Lake and related dust suppression projects and having a pipeline for the importation of seawater.

Further fact - for 1,000 Tons of produced Lithium it needs 1,500 acre-feet of water. For 20,000 Tons of lithium, it needs 30, 000 acre-feet of water. That is a substantial amount of water that we do not have.

Everyone knows that, with the current plan, we are lacking water and that the Salton Sea is disappearing.

The local organization/agencies - Salton Sea Authority (SSA), which is under the strong influence of the Imperial Irrigation District (IID) and a few others made a fundamental breach of trust and their task which is to follow the State’s policy and work in the interest of restoration of the Salton Sea, our environment, the health of the nearby population.

Came to my attention two very good and in-depth comments (studies) on the Salton Sea situation by Jenny Ross, the Senior Researcher at the Ross Institute. One is to the Army Corps of Engineers and the Salton Sea Management Plan about the recent environmental impact report on the projects of the Ten-Year Plan, and the other is to the U.S. Bureau of Reclamation about how future planning for water management of the Colorado River must include the importation of ocean water to refill the Salton Sea, thus ending its dependence on the Colorado River, and relieving the shortage of water for users of the river in the seven states and Mexico. Please make time to read them.

Here are the links: [Jenny Ross 10 Yr Plan Public Comment.pdf](#) and [Jenny Ross on Colorado River Mgt. strategy.pdf](#).



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It is not worth rebutting every page of the Draft Report of the Blue Ribbon Commission because it is written based on false acceptance of the Perimeter/Brine Lake as a path to move forward and exclusion of importation of seawater – similar to the Panel’s Report.

SUGGESTION:

Although it might look as out of the subject, it is very relevant to Blue Ribbon Commission work. The Panel of independent reviewers (Panel) formed on the initiative of the State (California Natural Resource Agency (CNRA) made a fundamental breach of trust and their task by losing “independent” status by collaborating with at least one of my opponents (Tetra-Tech) and followed their advice to exclude my proposal from further evaluation because my architectural plan (proposal) interfere with Tetra-Tech’s ill-conceived plan that leads to the destruction of the Salton Sea. With Tetra-Tech’s plan, the Lake would be smaller, saltier, smellier, and more polluted. The Tetra-Tech is a strong opponent of the importation of seawater. The truth is that Tetra-Tech and Pacific Institute with their secret bosses behind closed-door (SSA and IID) used their status as State’s consultants (acting as the State) to overcome the Panel’s independent status and took over evaluations of the proposals for the restoration of the Salton Sea. They excluded the only competition (my proposal), eliminating several “wishful thinking” and “speculative” proposals, and reinstating their ill-conceived proposal as a front-runner and the only feasible proposal. They made the Panel irrelevant. That is highly inappropriate and illegal. The State policy on this issue is the inclusion of the “importation of seawater”, a clean environment, clean renewable energy, etc.

The Panel in consultation with Tetra-Tech inserted strange criteria “no new or unproven technologies” which has very little to do with my architectural plan. The essence of my proposal is Architectural Plan. My Architectural Plan provides refiling the Salton Sea to the water level of the 1950s and 60s despite restriction by Quantification Settlement Agreement (QSA), preventing pollution by redirecting pollutants (New River and Alamo River) back in Mexico (before they are polluted with pesticides and fertilizers), desalinating the Lake and providing a clean environment, providing recreational parks with fisheries, and more, etc. That is the beauty of a creative architectural plan. In addition to the architectural plan, I am proposing technologies (hydro, solar, and geothermal) that are technically sound and are based on the law of physics. There is nothing mysterious about it. My system is proven in many different applications. Conventional technologies in my architectural plan can be used too although will not be efficient as my proposed technologies. By the way, new technologies, new ideas, solutions, etc., - are called progress. The economy of our country (USA) is based on it. Sorry to say but the State bears some responsibility in this grave situation because had employed and used as consultants for 20 years people who have limited technical knowledge, who are arrogant, and shortsighted. No pun intended, - but there is a difference between an architect and a civil engineer, as there is between a chemist and



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a mechanical engineer as there is between a dentist and a thorax surgeon – although they all might be nice people. Also, talent is not something to be taught or learned – talent is something to be born with and used with the necessary knowledge.

I requested and received the recording of my presentation in front of the Panel on Friday, October 22, 2021, from 10:30 am - 11:15 am PST.

Here is the link: [google drive link](#).

Without going into details at this time, I am the only author with the patent of the proposal for importing seawater (having a corridor for a pipeline from San Felipe to the Salton Sea) that the Panel accepted from three other proposals that had copied the corridor from my papers of 2018 but excluded me from further evaluation without logical explanation.

Recently, on September 30, 2022, the Panel published their finding with the conclusion that the importation of seawater is not a feasible concept. The Panel's report is a travesty. The Panel charged \$2,500,000 for supposedly reviewing 18 proposals and we lost precious time (a whole year) unnecessarily. Something that with adequate examination should not take more than one week. None of those 18 proposals had a plan for the restoration of the Salton Sea except my proposal which they refused to review. It is so wrong, transparent, and naive...it was a robbery ... it is ridiculous. I am challenging their finding. Unfortunately, a few members of the Blue Ribbon Commission are involved in that scam too. Such manipulative practices must cease if we are to follow the State's policy towards a clean environment, renewable energy, and the safety of the population.

There are many complaints regarding the Panel's report. I hope the State will reject the Panel's report for the obvious reason, but that remains to be seen.

An investigation of the Panel of independent reviewers and Tetra-Tech is necessary.

Since I am asking the State for a speedy evaluation of my proposal and the formation of a new "independent" panel with the necessary knowledge and backbone that will not succumb to anyone's pressure, I am asking the commissioners of the Blue Ribbon Commission with conciseness to include in the final report for legislators a following: **"A dike must be implemented around the desired area that is intended for extraction of lithium from geothermal brine"** as I indicated it in my proposal in 2018 and 2021. That way the Salton Sea will not be destroyed (shrined) because of needed land for the extraction of lithium from geothermal brine and we would be able to import seawater into the central part of the Salton Sea and refill it with seawater to the water levels of the 1950s and 60s. That is not difficult to understand and is not difficult to do.

For those who still did not study my proposal, in a few words - I had my concept since 2012-13 of dividing the Salton Sea into three sections and importing seawater by



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pipeline into the central section. That is the only way that we can overcome the deficiency of water inflow from the Colorado River and have a full clean Lake as it was in the 1950s and 60s. Today the inflow from the Colorado River, which is used for farmland (runoff water) is used to sustain the Salton Sea. Dividing the Salton Sea into three segments, we would need water from the Colorado River only for farmlands and to sustain the North and South sections. We do not need to worry about the central large section anymore because we would be able to bring seawater from the Ocean more than we need for sustaining the central section of the Salton Sea. To sustain the Salton Sea, we need about 1,000,000 acre-feet. With my system, we can import 3,000,000 acre-feet and have 2,000,000 acre-fit extra water that can be used for the extraction of lithium from geothermal brine which they do not have today, and/or for many different applications, potable water for bottling, farmland, production of hydrogen, etc. The Salton Sea should be a hub to produce potable water and lithium for future generations.

I am confident that my proposal for the restoration of the Salton Sea will be accepted and implemented whether with the current set of leadership or the next set of leadership, whether during our generation or future generation. How do I know that? Because common sense will prevail and because money talks. Every year of delaying the implementation of my proposal we are losing at least \$500,000,000 per year just from clean renewable energy.

TWO OPTIONS:

There are really two options for the State to choose about the fate of the Salton Sea with two completely different outcomes:

Option I – To proceed with the current project already in motion a “Smaller, *Sustainable* Lake” – “10-year plan” – “Perimeter Lake” - The projects that will be constantly asking the State and Federal Governments for help (for more money) for fixing never-ending problems - and at the end losing the Lake with liabilities exceeding \$70 billion (environmental disaster – toxic dust storms, health issues, and economic fold). (NOTE: In the process would benefit a few “friendly” companies on the expenses of the environment and communities); and

Option II – To redirect allocated money and efforts toward implementation of the long-term solution (my proposal) which would restore the Salton Sea to the water level of the 1950s and 60s; provide the condition, for tourism, wildlife sanctuary, clean environment, and generate revenue in 100s Billion Dollars in several decades and would continue so in future costing only about \$15,000,000,000. (NOTE: A few companies that would benefit from Option I, would benefit even more with Option II, – they just do not understand it yet).



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RECOMMENDATIONS

The restoration of the Salton Sea is of enormous importance not just for the local population but for the environment and the state of California. We lost a lot of time and money unnecessarily.

After the collapse of the Panel of independent reviewers, the only way forward is the initiation by the State of speedy evaluation with the new Panel “knowledgeable” on the subject, “independent”, and with a “backbone” so that we can move forward expeditiously with a long-range plan for full restoration of the Salton Sea. The proper evaluation should take not more than one month. Listening to advice from Tetra-Tech and Pacific Institute with their diagrams and estimate of showing how Lake will look in 2045 and following the 10-year plan of the SSMP until 2028, means losing another 6 years of time, billions of dollars on projects that are doomed to fail, and at least \$3,000,000,000 loss of potential revenue per year just from clean renewable energy that would be generated if my proposal is implemented. In 5-6 years, we could have restored the functional Salton Sea.

I am confident in the validity of my proposal for the restoration of the Salton Sea. I urge the State of California to initiate a contest on an international scale so that big known companies with experience in large projects such as AECOM, FLUOR, ORMAT, TENGDI MACHINERY, EQT, FUJI, GENERAL ELECTRIC, SIEMENS, ABB, MITSUBISHI, etc., to mention just a few, can compete with their proposal (concept). A few million dollars for the process and awards for several 1st -3rd place to stimulate participation would be appropriate. That would be a much better way of spending a few million dollars that paying for the current Panel of “independent” reviewers for their lousy service. Tetra-Tech would be welcome to compete as a contestant with their proposal but based on their record not as a referee.

One option would be to contact several of the big capable companies (contractors) for their cost estimates for the implementation of my proposal. That way potential contractors can compete for the job and at the same time evaluate the feasibility of my proposal and the technology involved. Any suggestions and/or improvements by the contractors are welcome. That way, after multi-independent studies, the evaluation of my proposal could be completed, with a lesser chance of corruptive conduct and interference with evaluation by Tetra-Tech, IID, Pacific Institute, and SSA.

I challenge any expert in the USA and Worldwide to find anything wrong with my proposal in its concept and technologies involved with respect to feasibility and its function. So far, I did not hear any scientific objections from anyone.

Feasibility definition: 1. *the possibility that can be made, done, or achieved, or is reasonable: the state or degree of being easily or conveniently done: This level of description is sufficient for an engineer to consider initial design feasibility.*



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Many companies that produce conventional turbines can produce my design of the “In-Line Pump” and “In-Line Generator” using the same material and technologies.

Many companies that produce conventional steam engines can produce my design of the “power unit” using a piston system using the same material and technologies.

Many companies that produce air-conditioning units and heat exchangers can produce my design of a “Thermo-Optical Solar System” (TOSS) using the same or similar materials and technologies.

Many companies that produce conventional drilling equipment can produce my design of motorized drill heads and heat exchangers using the same or similar materials and technologies.

All components of different technologies in my proposal for the restoration of the Salton Sea can be produced, and several prototypes tested, in around 5-6 months let’s say a year. That is not a difficult task.

Even if conventional turbines and/or PV solar panels are used in my architectural plan it will still generate positive revenue but not as much as it would be by implementing my proposed technologies.

Symbolic participating fees should be included to prevent overcrowding of the contest and to minimize the participation of amateurs. No pun intended, but this project requires certain expertise.

After providing an overview of the situation the criteria for the contest should be very simple:

A) Solution must be viable and technically sound for the importation of seawater whether from the Sea of Cortez or the Pacific Ocean or both.

B) Solution must be viable in stopping pollution of the Salton Sea.

C) Solution must be viable in respecting the Quantification Settlement Agreement (QSA) because of the limited inflow from the Colorado River.

D) Solution must be viable in providing wildlife sanctuaries.

E) Solution must be viable in reducing the salinity of the Salton Sea.

F) Solution must be viable in providing conditions for tourism and other activities to benefit the local population, employment, and economy.



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G) Solution must be viable in harmonizing existing projects for the extraction of lithium from the geothermal brine and the restoration of the Salton Sea which includes the importation of seawater.

H) Solution must be economically viable having a positive ratio of cost expense for the project and revenue generated from the project.

If there are several proposals having similar but different parts or technologies, then, they should be evaluated by comparison on each difference including cost, feasibility, efficiency, and revenue generated.

In fairness, because of the gross failure of the current Panel, all previous participants including Tetra-Tech should be welcome to participate again, if they want, without participating fees.

A few words about my work:

My proposal for the restoration of the Salton Sea involves architectural design which incorporates several breakthrough technologies in the energy industry which I have invented and modified to incorporate local conditions of the Salton Sea area with the final product – the long-term solution for the restoration of the Salton Sea. It might be considered a project of the century costing only about \$15 billion and generating at least \$500,000,000 in revenue per year just from clean renewable energy – not including tourism and other activities.

At this time, I will just summarize the subjects of my breakthrough methodologies:

1. I am the inventor of the new system for harnessing geothermal energy (a completely closed-loop system) which is not limited to geothermal reservoirs.
2. I am also the inventor of the new system for drilling deeper and wider wellbores.
3. I am also the inventor of the new system for harnessing solar energy (thermo-optical solar system) having the “power unite” with pistons, which is at least several times more efficient than Photo Voltaic (PV) systems.
4. I am also the inventor of the new system of cross-country pipelines for importing seawater or other fluids, having the “in-line pump” as segments of the pipeline for uphill routes, and having the “in-line generator” as segments of the pipeline for downhill routes with the “Delta Power Plant” at the last section.
5. I am also the inventor of the new system for using the pipeline as a foundation for solar panels which eliminates expenses for purchasing or leasing huge sections of land, which is an expensive requirement for current conventional solar facilities on an industrial scale. My system decentralizes the conventional centralized systems.



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6. I am also the inventor of the new system for the desalinization of salty water using solar and/or geothermal energy to generate electricity and having potable water as a free byproduct, and concentrated brine to be used to produce Lithium.
7. After the accident offshore of Louisiana in the Gulf of Mexico on April 20, 2010, and a failure of the "Blow Out Preventer" (BOP) in the Macondo well, it became a challenge how to stop uncontrollable bursts of crude oil in the Gulf of Mexico and prevent disasters of epic proportions. Out of over 3,000 proposals and many universities and laboratories participating, my proposal for controlling dysfunctional "Blow out Preventer" was used to stop uncontrollable bursts of crude oil. By July 15, 2010, the Macondo well was successfully sealed, if only temporarily, for the first time in 87 days. That was only 34 days after my submission. The implementation of the control valve on top of the dysfunctional BOP was televised on CNN.
8. I graduated from the School of Architecture, University Cyril and Methodius, Skopje, North Macedonia, in 1982, and immigrated to the United States in 1983, as a student at the Frank Lloyd Wright School of Architecture, Taliesin West in Arizona, and Taliesin East in Wisconsin. The University Cyril and Methodius – School of Architecture - consists of nine semesters, around 38 exams, plus graduate work which takes an additional 5-6 months. I am proud to say that my graduate work scored 10 out of 10, which is rarely given.

My mission is global – which is licensing technologies worldwide to capable companies/contractors with means. The Salton Sea project is a small part of it but an important part. It is imperative to save the Salton Sea and our environment despite unreasonable opposition. I am providing a solution and the "know-how" to the desperate situation.

Here is the video of my presentation in front of members of the CEC. It is about 60 minutes. I am grateful for such an opportunity from the CEC although the material is substantial, and I needed more than 60 minutes. Here is the link: https://energy.zoom.us/rec/share/d4tAFmZFYEoqq4_VQzKgnbEbbjsTG-o8xeJX9KRklp4uLlvOr7dCOz-9zrcMW-tW.JZXVajNyKAb3E9Of.

Also, I am including links, and a summary of my proposal for the restoration of the Salton Sea, divided into five segments for easier understanding. Each of the segments (phases) is essential for the final product – a self-sustained Salton Sea.

(About Importing Seawater – Segment - I)

<http://www.geothermalworldwide.com/images/ImportingSeawater-1.pdf>



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(About Harnessing Hydropower – Segment - II)
[6+\(II\) Harnessing Hydro Power - May, 2019 - Copy - Copy.pdf](#)

(About Harnessing Solar Energy – Segment - III))
[6+\(III\) Harnessing Solar Energy - Addendum - July 1, 2022 - - Copy - Copy.pdf](#)

(About Harnessing Geothermal Energy – Segment - IV) (in the GWC 2020 papers it is defined as Segment - II)
<http://www.geothermalworldwide.com/images/HarnessingGeothermalEnergy-4.pdf>

(About Drilling Deeper and Wider Wellbores – Segment - V) (in the GWC 2020 papers it is defined as Segment - III)
<http://www.geothermalworldwide.com/images/DrillingDeeperWellbores-5.pdf>

The value of my work is its simplicity and its necessity. An average high school student could understand it in a relatively short time if read thoroughly. My work is patented with several “continuation-in-part” applications still pending.

A few additional information.

I complained about the Panel's inappropriate conduct and exposed it in numerous letters including one that I sent (34-pages) to the U.S. Army Corps of Engineers on August 20, 2022. Here is the link: [Public Comment following the Corps and SSMP meetings -July, 2022 - Copy.pdf](#).

I intend to send a similar letter to the Bureau of Reclamation although it is known that all of them just follow the State's policy.

I would be glad to answer any questions.

Sincerely,

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