

**STATEMENT OF
DR. M.V. RAMANA
REPORT AUTHOR**

GOOD MORNING TO THOSE OF YOU HERE IN THE WEST.

AS YOU JUST HEARD, MY NAME IS M.V. RAMANA. AMONG A HANDFUL OF TOPICS, SMALL MODULAR NUCLEAR REACTORS IS A SUBJECT I HAVE STUDIED CLOSELY IN SEVERAL DIFFERENT COUNTRIES.

THAT IS WHY I WAS PLEASED TO BE ASKED TO LOOK AT THE PROSPECTS FOR THE MUNICIPALITIES IN UTAH, IDAHO, NEVADA, NEW MEXICO AND CALIFORNIA PARTICIPATING IN THE UTAH ASSOCIATED MUNICIPAL POWER SYSTEMS (UAMPS) SMALL MODULAR NUCLEAR PROJECT PROMOTED BY OREGON-BASED NUSCALE POWER.

I AM SORRY TO SAY THAT WHAT LIES AHEAD IS RISKY AND EXPENSIVE IF THESE MUNICIPALITIES DO NOT AVAIL THEMSELVES OF THE OFF RAMPS AND EXIT THIS PROJECT.

OTHERWISE, THEY COULD END UP BEING LEFT HOLDING THE BAG DUE TO RUNAWAY COSTS, WHICH COULD GO UP FURTHER DUE TO THE FINDINGS OF THE REGULATORY REVIEW CARRIED OUT BY THE NUCLEAR REGULATORY COMMISSION, IF THE TAXPAYER

SUBSIDIES ANNOUNCED BY THE DEPARTMENT OF ENERGY DO NOT MATERIALIZE, AND A HOST OF OTHER RISKS.

MY NEW REPORT CONCLUDES:

“AS HAS BEEN TRUE WITH OTHER RECENT NUCLEAR POWER PROJECTS IN THE US AND IN EUROPE, UAMPS MEMBERS COULD BE ON THE HOOK FOR EXTREME COST OVERRUNS AND PROJECT CANCELLATION, MAKING IT A RISKY PROPOSITION FOR THEM TO CONTINUE INVESTING IN AN UNTESTED, FIRST-OF-ITS-KIND NUCLEAR POWER FACILITY.”

“WITH NUCLEAR POWER BECOMING MORE EXPENSIVE IN GENERAL, THE DRAMATIC INCREASE IN THE CONSTRUCTION COSTS OF THE NUSCALE PROJECT, THE UNCERTAINTY IN THE OUTLOOK FOR ELECTRICITY DEMAND, AND RENEWABLES AND STORAGE BECOMING INCREASINGLY CHEAPER, INVESTMENT IN THE NUSCALE PROJECT IS SIMPLY NOT PRUDENT.”

KEY REPORT FINDINGS INCLUDE THE FOLLOWING:

- ***PROJECT COST.*** THE ESTIMATED COSTS OF THE NUSCALE REACTOR DESIGN HAVE BEEN CONSISTENTLY GOING UP. JUST IN THE LAST FIVE YEARS, THE ESTIMATED CONSTRUCTION COST HAS GONE UP FROM AROUND \$3 BILLION IN 2015 TO \$6.1 BILLION IN 2020.

- ***SCHEDULE DELAYS.*** NUSCALE POWER WAS SUPPOSED TO DELIVER ITS FIRST WORKING SMALL MODULAR REACTOR IN 2015. AFTER A SERIES OF DELAYS, IT IS NOW FORECASTING THE FIRST UAMPS REACTORS IN 2029-2030 – UNLESS THERE ARE FURTHER SLOWDOWNS, WHICH ARE LIKELY.
- ***COST OF ELECTRICITY.*** UAMPS POWER COSTS WERE ORIGINALLY PROJECTED AT \$65 PER MEGAWATT HOUR AND THEN REDUCED TO \$55 PER MEGAWATT HOUR. BUT OTHER UTILITIES HAVE INDICATED THAT NUSCALE SMRS WOULD COST \$94-\$121 PER MEGAWATT HOUR. EVEN IF THE UAMPS/NUSCALE ELECTRICITY PRODUCTION COSTS ARE CORRECT, THEY WOULD STILL FAR EXCEED THE COST OF RENEWABLES, WHICH ARE MOVING IN THE OPPOSITE DIRECTION. A RENEWABLES PORTFOLIO COULD BE UP TO 60 PERCENT LESS EXPENSIVE THAN THE UAMPS/NUSCALE PROJECT.
- ***NUCLEAR WASTE.*** THIS WILL BE A PROBLEM FOR NUSCALE TOO BECAUSE JUST LIKE LARGE REACTORS, THE PROPOSED NUSCALE REACTOR DESIGN WILL PRODUCE RADIOACTIVE WASTES OF MANY KINDS. THE PROBLEM COULD EVEN BE A BIT MORE ACUTE; PROPOSED REACTOR DESIGNS LIKE NUSCALE WILL PRODUCE MORE, NOT LESS, NUCLEAR WASTE PER UNIT OF ELECTRICITY THEY GENERATE.

THE REPORT I AM ISSUING TODAY ALSO HIGHLIGHTS THE CHANGING NATURE OF THE REACTOR'S DESIGN, WHICH IS A RECIPE FOR FURTHER INCREASES IN COSTS ... THE CONSIDERABLE AMOUNT OF REGULATORY UNCERTAINTY THAT STILL EXISTS ... AND THE ROCKY STATUS OF NUSCALE'S PARENT COMPANY: FLUOR.

I WOULD CONCLUDE MY OPENING STATEMENT BY SAYING THIS:

UAMPS MEMBERS MAY WISH TO CONSIDER ENDING THEIR PURSUIT OF SMALL MODULAR NUCLEAR REACTORS AND AVOID THE SUNK COSTS OF A PROJECT THAT IS VERY UNLIKELY TO ACHIEVE ITS TARGET PRICE OR PRODUCE ELECTRICITY AT A COST COMPETITIVE WITH PROVEN ALTERNATIVES.

PURSUING CHEAPER, CURRENTLY AVAILABLE SOLAR, WIND, ENERGY STORAGE (BATTERIES), AND ENERGY EFFICIENCY WOULD BE A MORE RELIABLE PATH FOR UAMPS TO SHIFT TO A CARBON-FREE ENERGY FUTURE.

THAT CONCLUDES MY OPENING STATEMENT.

THANK YOU FOR YOUR ATTENTION TO MY REMARKS.

I LOOK FORWARD TO TAKING YOUR QUESTIONS.