Dr. Fred Leder on Israel and Iran Nukes

Dr. Fred Leder, an expert in alternative energy projects who worked for both Exxon Mobil and Occicdental Petroleum offered these comments regarding a possible Israel Iran nuclear facilities bombing scenario as well as Iran's two tracks for achieving nuclear breakout. (See *Wall Street Journal* graphic on Iran's nuclear program above).Dr. Leder holds a PhD in Chemical Engineering from Yale University. His comments come after yesterday's announcement of a framework agreement, to be finalized before June 30th between the P5+1 and the Islamic Republic of Iran amidst much contrversy about whether the outline achieves the objection of preventing Iran from obtaining a nuclear weapon. It also comes on the day that a story broke in today's *Wall Street Journal* about the US testing a more powerful Massive Ordance Penetrator (MOP) or bunker buster bomb capable of penetrating the Fordow cavern underground centrifuge facility located near Qom in Iran or other possible underground test sites in North Korea.

Comments of Dr. Leder

The correct solution for Iran is a joint strike, led by an American battle group stationed in the Med or the Arabian sea. There should be round the clock bombing until all the facilities are rubble. That's what Bolton was talking about and that's what Israel cannot do. Given the White House views on Iran, not only will there be no American attack there will be no Israeli attack. They might disclose any Israeli plans or mobilization, and might very well shoot down IAF planes.

While Israel is responsible for its own defense they cannot do what is not possible. They most likely will bide their time

for the next 18 months hoping to see a more cooperative government in DC.

I suspect that Israel either has hydrogen bombs or is close to building one. Given the talk in Iran about sustaining a nuclear attack from Israel, it might be wise to announce that they have nuclear fusion bombs in the 20 megaton range. The nuclear fission bombs are already known, and if Iran thinks a nuclear fission attack is sustainable maybe they should think about sustaining a few nuclear fusion (hydrogen) bombs.

I would like to clarify some simple physics. There are two kinds of nuclear reactors. One is the type developed in the US for electric power that runs on enriched uranium (enriched from 0.7% to 2.8% U235). It is moderated with ordinary water. Then there is the Canadian reactor that runs on natural uranium (not enriched at all) but which has to be moderated with heavy water i.e. Deuterium oxide, D2O or DHO, I'm not sure which. Either reactor will produce plutonium as a by-product and to get the plutonium one has to rip open the fuel rods and chemically process the spent fuel. If you want to run the reactor specifically for plutonium you probably want a small one, e.g. a research reactor. If you don't have a good reason or a good excuse to enrich uranium, then you could use a heavy water reactor that doesn't require enriched fuel. If you want to hedge your bets you would do one of each. You would enrich uranium all the way to 90+ % and you would run a heavy water reactor for plutonium. That's what we did in 1944. We had the heavy water reactor in Hanford, Washington and the enrichment in Oak Ridge, TN, and that's what the Iranians are doing now.