# Notes

This pic was absurdly dumb but also super strategic because nobody knew what it said – it was such a fake argument that no real people actually responded in the lit – it was also one of the only larp positions I had frontlined really well the whole year

# 1NC

## 1NC

### 1NC – PIC

#### Counterplan: [actor] ought to eliminate their nuclear arsenals, except those used in nuclear fracking. [actor] ought to replace all feasible instances of hydraulic fracking with nuclear fracking.

[status]

#### Nuclear fracking is better because it doesn’t contaminate groundwater – also solves nuclear waste disposal.

McMahon 14 [Jeff McMahon, (I've covered the energy and environment beat since 1985, when I discovered my college was discarding radioactive waste in a dumpster. That story ran in the Arizona Republic, and I have chased electrons and pollutants ever since, for dailies in Arizona and California, for alternative weeklies including New Times and Newcity, for online innovators such as The Weather Channel's Forecast Earth project, The New York Times Company's LifeWire syndicate, and True/Slant—the prototype for the new Forbes. I've wandered far afield—to cover the counterrevolutionary war in Nicaragua, the World Series Earthquake in San Francisco, the UN Climate Change Conferences in Copenhagen and Paris. I also teach journalism, argument and scientific writing at the University of Chicago.) "U.S. Experimented With Nuclear Fracking" Forbes, 1-29-2014, https://www.forbes.com/sites/jeffmcmahon/2014/01/29/u-s-experimented-with-nuclear-fracking/#68e863f5c9c7, DOA:1-12-2020 // WWBW]

At the annual meeting of the American Geophysical Union in San Francisco, Leonid **Germanovich of** the **Georgia** Institute of **Tech**nology **suggested that nuclear wastes deposited in shale rock would never return to the surface.** "It's basic physics here — if **it's heavier than rock, the fracture will propagate down**," said the physicist and civil and environmental engineer. Jens Birkholzer, head of the Nuclear Energy and Waste Program at Lawrence Berkeley National Laboratory, told Livescience the idea is impractical, largely for safety reasons, but in fact, the government has already disposed of nuclear wastes this way, as you'll read below. Jon Abel's questions had me wondering whether these two explosive forms of energy extraction had ever been combined. And indeed they have. In December, 1967, **scientists** from the Atomic Energy Commission and officials from the U.S. Bureau of Mines and El Paso Natural Gas Company **gathered at a gas well** in northern New Mexico, near Farmington. **They lowered a** 29-kiloton **nuclear device** more than 4,000 feet **down the shaft and set it off. It worked.** "**The** 4,042-foot-deep **detonation created** a molten glass-lined cavern about 160 feet in diameter and 333 feet tall," according to the American Oil and Gas Historical Society. "It collapsed within seconds. Subsequent measurements indicated **fractures** extended more than 200 feet in all directions – **and significantly increased natural gas production.**" The Atomic Energy Commission tried twice more. In 1969 they set off a 43-kiloton nuclear bomb in an 8,500-foot deep well near Rulison, Colorado. In 1973 they set off three 33-kiloton bombs in a single well near Rifle, Colorado. In all three tests, they collaborated with the local gas utilities. The tests were part of the Plowshare Program—a government initiative to find peaceful uses for nuclear explosions—which was discontinued in 1975. Nuclear fracking never became a common practice because of safety concerns, public opposition and the growth of hydraulic fracturing, according to a report from the Department of Energy's Office of Scientific and Technical Information: Although the **technology was demonstrated to be technically feasible**, it could not be proved that national energy needs justified the elaborate procedures that would be required. Concerns about the potential of the tritium contamination of the gas that would result from nuclear explosive stimulation were raised by Colorado and western alliance agencies. These concerns and the lack of public support for the program made it unlikely that Congress would ever approve a commercial joint government-industry venture. By 1974, approximately 82 million dollars had been invested in the nuclear gas stimulation technology program .... It was estimated that even after 25 years of gas production of all the natural gas deemed recoverable, that only 15 to 40 percent of the investment could be recovered. At the same time, alternative, non-nuclear technologies were being developed, such as hydrofracturing. Consequently, under the pressure of economic and environmental concerns, the Plowshare Program was discontinued at the end of FY 1975. The three sites—the Gasbuggy site in New Mexico and the Rulison and Rio Blanco sites in Colorado—remain under the watch of DOE's Office of Legacy Management. When DOE cleaned up the Gasbuggy site in 2004, it used the well just as Jon Abel suggested it might: "liquid radioactive waste was injected into the cavity formed by the nuclear explosion; solid radioactive waste was removed to the Nevada Test Site," according to a DOE fact sheet (pdf). When Rio Blanco was cleaned up, radioactive materials were injected into the earth using one of the test wells. **DOE and EPA officials conduct regular tests to determine whether radioactive liquids are migrating from these sites into adjacent groundwater. So far, they say, no leaks.**

#### Hydraulic fracking contaminates drinking water.

Vaidyanathan 16 [Gayathri Vaidyanathan, () "Fracking Can Contaminate Drinking Water" Scientific American, 4-4-2016, https://www.scientificamerican.com/article/fracking-can-contaminate-drinking-water/, DOA:1-12-2020 // WWBW]

Former EPA scientist Dominic DiGiulio never gave up. Eight years ago, people in Pavillion, Wyo., living in the middle of a natural gas basin, complained of a bad taste and smell in their drinking water. U.S. EPA launched an inquiry, helmed by DiGiulio, and preliminary testing suggested that the **groundwater contained toxic chemicals**. Then, in 2013, the agency suddenly transferred the investigation to state regulators without publishing a final report. Now, DiGiulio has done it for them. He published a comprehensive, peer-reviewed study last week in Environmental Science and Technology that suggests that people’s **water wells** in Pavillion **were contaminated with fracking wastes that are typically stored in unlined pits dug into the ground**. The study also suggests that the entire groundwater resource in the Wind River Basin is contaminated with chemicals linked to hydraulic fracturing, or fracking. This production technique, which involves cracking shale rock deep underground to extract oil and gas, is popular in the United States. It’s also controversial. There are thousands of wells across the American West and in California that are vulnerable to the kind of threat documented in the study, DiGiulio said. He is now a research scholar at Stanford University. “We showed that groundwater contamination occurred as a result of hydraulic fracturing,” DiGiulio said in an interview. “It contaminated the Wind River formation.” The findings underscore the tension at the heart of the Obama administration’s climate change policy, which is based on replacing many coal-fired power plants with facilities that burn cleaner natural gas. That **reliance on natural gas has sometimes blinded agencies to local pollution and health impacts associated with the resource**, said Rob Jackson, an earth scientist at Stanford and co-author of the study. In 2015, EPA said in a controversial draft study that hydraulic fracturing has not had “widespread, systemic impacts on drinking water resources in the United States” (Greenwire, June 4, 2015). “The national office of EPA has tended to downplay concerns of their own investigators, in part because the Obama administration has promoted natural gas,” Jackson said. “Natural gas is here to stay. It behooves us to make it as safe and environmentally friendly as possible.” EPA spokeswoman Julia Valentine said the agency hasn’t yet finalized its assessment that natural gas has no “widespread, systemic impacts.” As part of that process, the agency will evaluate all recent research, including DiGiulio’s study, she said. Encana Corp., the company that operated in the Pavillion basin, said repeated testing has shown people’s water wells are safe for consumption. “After numerous rounds of testing by both the state of Wyoming and EPA, there is no evidence that the water quality in domestic wells in the Pavillion Field has changed as a result of oil and gas operations; no oil and gas constituents were found to exceed drinking water standards in any samples taken,” said Doug Hock, an Encana spokesman. Water testing began in 2009 when the local EPA office responded to complaints from residents. EPA headquarters, and DiGiulio, got involved in January 2010. “Conducting a groundwater investigation related to fracking is extremely complicated,” DiGiulio said. “It is difficult because a lot of the compounds used for hydraulic fracturing are not commonly analyzed for in commercial labs.” These labs were originally set up for the Superfund program, under which EPA cleans up the most contaminated sites in the nation. They are great at detecting chemicals found at Superfund sites but not as good at detecting chemicals used in fracking, DiGiulio said. “You have some of these very **water-soluble exotic compounds in hydraulic fracturing**, which **were not amenable to routine lab-type analysis**,” he said. One such chemical was **methanol**. The simplest alcohol, it **can trigger permanent nerve damage and blindness in humans** when consumed in sufficient quantities. It was used in fracking in Pavillion as workers pumped thousands of gallons of water and chemicals at high pressure into the wells they were drilling. About 10 percent of the mixture contained methanol, DiGiulio said. So the presence of methanol in the Pavillion aquifer would indicate that fracking fluid may have contaminated it. But methanol degrades rapidly and is reduced within days to trace amounts. Commercial labs did not have the protocol to detect such small traces, so DiGiulio and his colleagues devised new procedures, using high-performance liquid chromatography, to detect it. They devised techniques for detecting other chemicals, as well. By then, Pavillion was roiling in controversy as EPA and residents collided with industry. EPA had drilled two monitoring wells, MW01 and MW02, in 2011, and its testing had found benzene, diesel and other toxic chemicals. But these results were contested by oil and gas industry representatives, who criticized EPA’s sampling techniques (EnergyWire, Oct. 12, 2012). They pointed to a technical disagreement between EPA and the U.S. Geological Survey on the best methods to cast doubt on EPA’s overall findings. EPA realized it needed a consensus on its water testing methodology. In February 2012, it assembled a technical team from the USGS, Wyoming state regulators and tribal representatives from the Wind River Indian Reservation. They retested the monitoring wells in April 2012. This time, they also tested for methanol. But EPA never released those results to the public. In 2013, the agency backed out of its investigation in Pavillion, handing it over to state regulators, who moved forward using a $1.5 million grant from Encana (EnergyWire, June 21, 2013). DiGiulio said the decision had come from EPA’s senior management. Industry representatives repeatedly pointed out that EPA had not published a peer-reviewed study on its findings. “If the EPA had any confidence in its draft report, which has been intensely criticized by state regulators and other federal agencies, it would proceed with the peer review process,” Steve Everley, a spokesman for Energy in Depth, an industry group, said at the time. “But it’s not, which says pretty clearly that the agency is finally acknowledging the severity of those flaws and leaning once again on the expertise of state regulators.” In December 2015, state regulators published a draft of their findings. It stated that fracking had not contributed to pollution in Pavillion, according to the Casper Star Tribune. The report said the groundwater is generally suitable for people to use. When DiGiulio retired from EPA in 2014, he trained his sights on Pavillion. He felt he had to finish his work. “EPA had basically handed the case over and a peer-reviewed document was never finalized,” he said. “If it is not in the peer-reviewed literature, then it presents a problem with credibility in terms of findings. It is important that the work be seen by other scientists and enter the peer review realm so that other scientists will have access to virtually everything.” Since 2012, a trove of new data had accumulated from USGS, EPA and state regulators. He obtained EPA’s methanol testing results through a Freedom of Information Act request and downloaded the rest of the information from the Wyoming oil and gas regulator’s website. All of it was publicly available, waiting for the right person to spend a year crunching the information. The end result: a peer-reviewed study that reaffirms EPA’s findings that there was something suspicious going on in Pavillion. More research is needed. The sampling wells contained methanol. They also contained high levels of diesel compounds, suggesting they may have been contaminated by open pits where operators had stored chemicals, DiGiulio said. The deep groundwater in the region contained high levels of salt and anomalous ions that are found in fracking fluid, DiGiulio said. The chemical composition suggests that **fracking fluids may have migrated directly into the aquifer through fractures**, he said. Encana had drilled shallow wells at Pavillion, at depths of less than 2,000 feet and within reach of the aquifer zone, said Jackson of Stanford University. “The shallow hydraulic fracturing is a potential problem because you don’t need a problem with well integrity to have chemicals migrate into drinking water,” he said. The study also shows that **there is a strong upward flow of groundwater in the basin, which means contamination that is deep underground could migrate closer to the surface over time.** “Right now, we are saying the data suggests impacts, which is a different statement than a definitive impact,” DiGiulio said. “We are saying the dots need to be connected here, monitoring wells need to be installed.”

### 1NC – PICs Good

#### PICs are good

Branson 07 Josh Branson, CSIS and graduated from Harvard Law. “Reflections about debate and policymaking” 2007. IB

Well, thats not the way it worked at all, at least for me. No doubt in a collegiate debate judged by one of ya’ll I could have killed them all on the Pan K, probably even if we talked slow, but in the real world, I was kind of surprised to find that the knowledge generated by debate proved to be fairly damn cursory and artificial. I could rattle off a list of most of the arguments for/against most of the general nonproliferation doctrines, but a lot of the empirical and factual basis for these arguments was completely missing in my brain. I could make the basic claim for almost anything in the field, but the technical issues that underlines a lot of them (the names and locations of the Russian CW destruction plants, an understanding of how the fine points of the budget process works, how a capital market sanction would actually be implemented, where did we get our intelligence that revealed Chinese serial proliferators selling bombs to AQ Khan, how does a centrifuge cascade work and why exactly would multilateral sanctions undermine Irans ability to get uranium gas piping technology, the names of the key players in the various foreign governments that make nonproliferation policy etc) was all missing. Maybe this stuff sounds pretty boring, and some of it is, but this is the type of stuff that really determines whether or not policies are successful and whether or not they are effectively promulgated. But the details pretty much get left out in debates, replaced by a simplistic and power-worded DA that culminates in nuclear winter.’ To my surprise, when setting out in the nonproliferation world, you don’t get to make grand pronouncements about the impact of funding Nunn-Lugar on US soft power or whether funding it would cause a budget deficit which would collapse the global economy and cause multiple scenarios for nuclear war. Instead, most of the work that is done is deciding which and what type of Russian facilities to allocate the money to, knowing the specific people within the Russian government we can trust, which types of nuclear disposition is safest and what types of transportation we should use when moving spent fuel back to storage, etc. When dealing with these discussions repeatedly, I found that debate had provided me a very sound abstract conceptual frame through which to analyze the general issues being raised, but little in a way of meaningfully engaging the policy process. Of course, debaters can learn this language. There are plenty who have. But I’d wonder whether or not people who claim that debate has trained people for this life are mistaking correlation with causation. Two other interesting conclusions: A) To all the people who attack debate for propounding an overly elitist and undemocratic discourse and undermines good broadly appealing public speaking skills: I think you’ve got it backwards. Yes, a lot of debates involve jargon, no question. But at least in my experience, I found that debate provided me the opposite. The times I was most confident at CSIS were when we were doing public debates or discussions in front of unqualified audiences. I could take on even the most senior experts; in these types of forums, I could out debate them and rhetorically counteract their vast experience/knowledge advantage. On the flip side, when I was in conferences with only experts in the field, I often felt at a severe disadvantage. In forums like this, bad arguments get called out, and rhetorically powerful but intellectually flimsy claims are pretty much non-starters. Debate experience wasn’t a ton of help. In terms of research, I did feel that all the debate research I’ve done provided some advantages and gave me a marginal edge over a lot of other people at CSIS, but nothing enormous. Most of the people there, even though they’d never done debate, can research just as well as the average college debater (ESPECIALLY on technical issues). I realize there are problems with the sample size etc, but it made me think twice about the infallible research advantages supposedly generated by policy debate. B) How to make debate more like the technical policy world? Narrower debates. PICs are vital to this (sorry, Duck). Thinking back on my 8 years in debate, the topic about which I can best converse with experts about is the design of emissions trading schemes. That was because the literature was deep and the prevalence of upstream/downstream/auctioned/timetable PICs narrowed the debates and forced a real in-depth discussion. I just don’t think we get that in a ton of debates, because most PICs are either wanky rhetoric PICs (and yes I was an extreme culprit) or something even worse like Consultation. Thinking back on it, I don’t think that the legal topic was worded particularly poorly, I just think that our strategic norms of judging/debating create a lot of problems in generating the type of education a lot of us want. But one of the most striking thing for me about last year’s topic was that I learned more from Repko’s post about his day at the Supreme Court than I did from all the debates I judged combined. In any event, how to create the types of narrow debates that will general real sustainable expertise on topics is tough. I think that we’ve got to learn how to become accepting as a community of analytical smart arguments to answer carded-yet-stupid arguments, maybe start accepting intrinsicness (something that I might post on some other day) as a way to eliminate politics DAs and consultation CPs, and start modifying our theory dispositions to be willing to call out bullshit CPs (see DHeidts new judge philosophy), and finally moving away from the cult of new and surprise arguments (see below). This will also involve changing the way we teach kids as they enter debate; I know I, for one, am going to change the way I teach camp this summer to include at least a little of these thoughts. Of course, the focus must remain on winning above all else, but I think that that pursuit can be synthesized with a change in some of our debate practices. 2. Why an elite or technical discourse is important My second conclusion is directed at people who decry the topic process because it’s too technical, too narrow, drown out the personal or the things that people want to talk about. Again, my opinion is that this is backwards. I think it’s a major problem that more of the people who conduct policy and who are influential in the process are not well-schooled in the actual empirical pragmatic details of the policies that they are advocating. I’ve read a significant amount about Iraq lately, and got to talk to a bunch of people who were intimately involved in the process, and one of the primary problems was that too much of our policy was executed in a cavalier and emotion-laden fashion. The dangerous pursuit of the “liberation of the oppressed” Iraqis at the expense of all the obvious problems entailed with that pursuit, the complete “lack of a plan,” for how to stabilize the country, and an utter ignorance of the technical or real policy issues facing a peacebuilding operation of that magnitude---these are all issues that come up REPEATEDLY when discussing the reason we went into Iraq in such a cavalier and short-sighted manner. A bunch of the more scathing indicts of the topic committee’s work---that the topic is too technical, that it undermines creativity etc…these are traits that for me are reflected in some of the most loathsome policymakers we have. Bush is by all accounts an idiot when it comes to policy expertise, but he’s the president that most people would love to have a beer with, and one who has let his personal conviction guide his policymaking more than any I can remember. His administration appears to conceive of the world in relatively simple generic conceptual dichotomies (stay the course vs. cut and run, terrorists are good or evil, our intelligence is either 100% accurate or its not). Is that really what we want our topics to boil down to? A be nice to the Middle East topic? Because its in the extra 60 words that the real problems with policy are revealed, and its there that we find the difference between an effective invasion that removes a horrible dictator from power and one which kills thousands of people and causes the region to implode. Yeah, you can rail against the elitism and technical nature of a lot of the academic literature all you want, and say that policy debate is exclusionary, but I think that we need more of the elite technical people and fewer of the smoke and mirrors BS artists running things. The policy world could use more Naveens and DHeidts. 3. Qualifications matter. Way more than I thought. My boss this year was the guy who basically ran our proliferation policy under Clinton, and has decades of experience negotiating with foreign officials, of dealing hands-on with our nuclear posture, of having access to intelligence at the highest levels etc. No matter how sweet we debaters think we are at analyzing things, there is a real difference between people like that and those of us who lack that experience. In debate, this guy’s opinion is basically equal to a J.D. Candidate’s. In any other arena, that is a laughable proposition. In debate, by far more important than how credible or qualified your argument is how NEW it is. You surprise the other team with a new strategy (no matter how idiotic) and the chances are good that you will win. Of course, that doesn’t really work in the think tank world. I actually think that debate would be way more educational and realistic if teams were forced to disclose their arguments before hand. I understand all the problems with mandating this, and realize it won’t happen, but I do think that the cult of newness at times is profoundly uneducational. 4. A large percentage of “fairness” impact arguments in debate are stupid. People’s obsession with “fairness” or “competitive equity” is misguided. One of the most valuable things about debate is adapting to unfair circumstances. If the neg runs conditional CPs, get better and deal with it. If the aff doesn’t specify their agent, figure out something else besides your same old agent CP. This is what the policy world is like; you’ve got to react and deal with tough situations. Do I think it’s fair that it’s hard to get published without a graduate degree or personal connections? Not really. Are most people in the policy community open-minded and unbiased? Nope. Policymaking is about dealing with unfair and difficult situations, and sometimes debate can be the same way. Looking back, for me a lot of the most intellectually invigorating parts of debate were also the hardest and most “unfair.” It was unfair that Klinger was so fast and clear, it was unfair that MSU at times read short shitty unpredictable evidence, it was unfair that Fullerton didn’t have a plan and was able to emotionally intimidate judges, it was unfair that a lot of people resented me because I wanted to win and didn't exert much effort socializing at tournaments, it was unfair that some judges were biased and we had to adapt our arguments, and it was unfair that Emory had more card cutters on their team than we did. I’m sure a lot of people feel similar or worse things about debating against Northwestern. But adapting to this stuff is part of life, and certainly part of the policy world. But in debate we certainly cry foul a lot. Maybe too much.

## 1NC – Competition – Country

### 1NC – China

#### Hydraulic fracking in China is big and getting bigger.

DiChristopher 18 [Tom DiChristopher, () “**China is getting better at fracking**, the technology that sparked the US natural gas boom” CNBC, 4-18-2018, https://www.cnbc.com/2018/04/18/china-is-getting-better-at-fracking-which-sparked-the-us-shale-boom.html, DOA:1-12-2020 // WWBW]

**Chinese energy giants are making progress unlocking natural gas from shale rock formations**, taking a step towards replicating the U.S. shale revolution, according to a new report. But China’s national oil companies still have plenty of ground to cover before they even approximate the level of success America’s shale pioneers have achieved, reports energy research firm Wood Mackenzie. Over the last decade, **China’s natural gas production has risen to 9 billion cubic meters.** Wood Mackenzie forecasts **that output will nearly double** to 17 billion cubic meters by 2020 as Chinese energy giants fine tune advanced drilling methods tailored for their country.

### 1NC – India

#### Hydraulic fracking is legal in India.

Rosencranz and Janghu 18 [Armin Rosencranz and Shubham Janghu, (Shubham Janghu is a fourth year student at the Jindal Global Law School in Sonipat, where Armin Rosencranz is a professor of law) "The risks in fracking" Hindu, 4-24-2018, https://www.thehindu.com/opinion/op-ed/the-risks-in-fracking/article23650260.ece, DOA:1-12-2020 // WWBW]

Because of its benefits, shale gas is being perceived by some as a ‘saviour’ of humanity. Fracking seems an attractive tool, both politically and economically. To gain such benefits, **the [Indian] government introduced a policy on shale gas and oil in 2013, permitting national oil companies to engage in fracking.** Under the first phase, shale gas blocks were identified in Andhra Pradesh, Arunachal Pradesh, Assam, Gujarat, Rajasthan and Tamil Nadu. However, environmental groups have strongly criticised this move, which they say will have adverse environmental impacts. Countries like Germany and France and subnational governments like Scotland have banned fracking.

# 2NR

## 2NR – F/L

### 2NR – O/V

Here’s the thesis of the PIC – current hydraulic fracking results in groundwater contamination since water used in fracking rises up through the surface because it’s lighter than the rock that displaces it. The PIC solves – setting off nuclear bombs underground and using nuclear waste to pump the gas back out of the ground is better since nuclear waste is heavier than rock – it sinks down and doesn’t contaminate groundwater.

Few framing issues:

1] sufficiency framing – the PIC solves the entirety of the aff since almost all nuclear weapons are destroyed and the weapons that still exist are no longer controlled by the military, they’re controlled by environmental agencies that don’t have the capability to launch them – no unique disad

2] empirical solvency – during the Cold War, the US did this but stopped because they thought hydraulic fracking would be safer - current EPA tests proves nuclear fracking is safe and effective and doesn’t cause contamination

### AT Unsafe/Radioactive

1] no – waste sinks down into the earth and doesn’t rise – avoids radioactivity

2] waste disposal inevitable – workers have to handle it either way

3] empirically disproven – USFG studies prove that these sites don’t show signs of radioactivity even after they got nuked

### AT Fracking Bad

No link to fracking bad – fracking exists in the aff world too – the neg just shifts from hydraulic fracturing to nuclear fracking – this is only offense for them if it’s an intrinsicness perm – do the aff and abolish fracking. Intrinsicness perms are a voting issue:

A] strat skew – infinite new planks they could add to the plan – kills neg strat since they can spike out of core neg disads with random perms – if I read CBW they could say perm do the aff and ban chemical and biological weapons

B] predictability – the text of the res is the only basis for neg ground – if they can read intrinsicness perms I don’t have a place to link offense

### ---AT Fracking Bad – Environment

I randomly cut this card at camp and it didn’t really add to the pic but it was funny to have in the file

#### **Turn/ fracking helps the environment – liberals misunderstand scientific data.**

Overholt 16 [Mark Overholt, () "The Environmental Benefits Of Fracking" Tiger General, 7-19-2016, https://www.tigergeneral.com/the-environmental-benefits-of-fracking/, DOA:7-10-2019 // WWBW]

Natural Gas Replaces Coal Power One of the incredible advantages to **fracking** is that it **can recover both crude oil and natural gas** from shale deposits in unprecedented amounts. **This has driven down the price of natural gas and made natural gas a more viable solution than coal. Coal is produces three times as many carbon emissions** as natural gas and is one of the most harmful fuels in the world. **By aiding in the transition from coal to natural gas, fracking has actually improved emissions** more than many other sustainable energy initiatives. Natural gas has surged and the need for coal has fallen in the last few years. Safety Concerns Unfounded The Environmental Protection Agency and other environmental organizations have been concerned in the past with the potential for groundwater infiltration during the process of hydraulic fracturing. There are two major misunderstandings that this relates to: a failure to understand the hydraulic fracturing process and a failure to explore the data. The hydraulic fracturing process itself is not what they are concerned about, rather injection, which is a separate process. Furthermore, many studies have shown that hydraulic fracturing methods have no impact on water aquifers. Yale published a peer reviewed study in 2015 to this effect. This is similar to the earthquake scares, which largely come from a misunderstanding of how earthquakes are classified. Reinvestment Into the Community Finally, hydraulic fracturing also contributes to the environment indirectly. **Hydraulic fracturing brings energy investors into local economies, during which time they invest directly into charity groups that perform environmental work** and generally increase the value of their community. Many charity groups have seen millions of dollars coming in through energy partners, which have a vested interest in improving the communities in which they live and work. Many of **these investments are going directly into further protecting the environment and ensuring the safety of the nearby regions.** Though there may be some **concerns** by environmental agencies, these concerns **are generally unfounded and have not been proven. Fracking has not only improved the energy outlook for the world, but it has made measurably positive changes in the environment and it has invested considerably in local economies.** Many of the environmental fears regarding fracking are due to a misunderstanding of the process and a fear of new technology. Businesses such as Tiger General, LLC have been in business since 1925 and have always prided themselves on their safety and the safety of their products. For information about oil field equipment, including brand new trucks and custom built options, contact Tiger General LLC today.

### AT Meltdowns

1] you read a neg card – it’s a reason squo fracking is bad and causes earthquakes which cause nuclear meltdowns – nuclear fracking solves that – the reason earthquakes happens in the status quo is because groundwater lubricates tectonic plates and increases the likelihood of shift – nuclear waste sinks into the ground and doesn’t do that

2] fracking is inevitable and exists in both worlds – their ev says meltdowns exist in the squo and doesn’t isolate anything about why nuclear fracking makes that worse

3] groundwater contamination o/w

A] probability – we have EPA studies that say the PIC is safe; you have random bloggers who know what fukushima is

B] scope – everyone gets water from pipes but most people don’t live near nuclear power plants

### 2NR – Perm

### ---AT Textual Competition

omitted

### ---AT general principal

omitted

### ---AT Eliminate allows exceptions

#### 1] eliminate means complete removal.

Kyle 10 Richard Kyle (United States District Judge) *Buetow v. ALS Enterprises, Inc.*, 713 F. Supp. 2d 832 (D. Minn. 2010). //WWBW

The word **"eliminate" is subject to only one reasonable interpretation-complete elimination. In determining the meaning of challenged advertisements, a court may reference dictionary definitions.** See Am. Italian Pasta Co. v. New World Pasta Co., 371 F.3d 387, 391 (8th Cir.2004) (referencing a dictionary definition of "favorite"). **The Compact Oxford English Dictionary provides that the word "eliminate" means "[t]o expel, exclude, remove, get rid of."** The Compact Oxford English Dictionary 840\*840 141 (2d ed. 1989). **The American Heritage Dictionary provides that the word "eliminate" means "to wipe out someone or something, especially by using drastic methods such as banishment or execution."** The American Heritage Dictionary 580 (4th ed. 2000). Thus, **the word "eliminate" denotes a complete removal such that the word "complete" is unnecessary and repetitive.**[9] Defendants have submitted several dictionary definitions equating the word "eliminate" with "remove." (Andre Decl. Exs. 12-14.) Defendants argue that because their carbon-embedded clothing removes a substantial amount of odor, its advertisements are not literally false. However, the Court finds that the use of the word "remove" would also be literally false if used in Defendants' advertisements. Here an example is helpful. **If an advertisement states that a product will remove roaches from a home, the only reasonable expectation would be that all roaches would be removed, not just some.**[10] Accordingly, the Court finds Defendants' advertisements utilizing the "elimination" terminology, without further explanation, to be literally false.

#### 2] Partial removal means modification, not elimination – precedent.

Gilbertson 4 Dave, Chief Justice of the South Dakota Supreme Court, Schulte v. Long, 2004 SD 102 - SD: Supreme Court 2004.

Even if one were to accept the majority opinion's determination that the reference to the effect on revenue is somehow permissible, factually, the disputed portion of the ballot is incorrect in that it indicates that food tax, as a source of revenue, would be "eliminate[d]." However, the initiated measure exempts certain foods from the effect of the proposed measure, making them taxable. For example, "the term, food, does not include alcoholic beverages, tobacco, soft drinks, candy or prepared foods." In other words, the word "eliminate" is inaccurate and the word "modify" would be accurate. In that regard, the Attorney General's statement is inaccurate and misleading.

### ---AT Arsenal = Military

#### 1] Arsenal includes bombs and delivery systems – the PIC keeps bombs to use in nuclear fracking

LANI ‘8 (Los Alamos National Laboratory, https://web.archive.org/web/20111001211340/http://www.lanl.gov/natlsecurity/nuclear/stockpile/)

As the nature of threats to the United States and the world has evolved, our defense policy has changed from one based on specific threats to one that can respond quickly to many kinds of potential threats, including asymmetric threats. One part of our nation's capabilities-based defense is our enduring nuclear stockpile—the country's supply of readily available nuclear weapons.

The stockpile, also called the nuclear arsenal, refers to a country's supply of readily available nuclear weapons. The term nuclear weapons refers to the explosive warheads and the bombs and missiles that can deliver them to enemy targets.

#### 2] Arsenals are collections of weapons.

Collins Dictionary “Arsenal.” *Collins Dictionary*, <https://www.collinsdictionary.com/us/dictionary/english/arsenal>. [Premier]

An arsenal is a large collection of weapons and military equipment held by a country, group, or person. Russia is committed to destroying most of its nuclear arsenals.

#### Nuclear weapons don’t have to be used for military purposes

Dictionary.com 19, “nuclear weapon,” BASED ON THE RANDOM HOUSE UNABRIDGED DICTIONARY, © RANDOM HOUSE, INC. 2019, <https://www.dictionary.com/browse/nuclear-weapon> [Premier]

an explosive device whose destructive potential derives from the release of energy that accompanies the splitting or combining of atomic nuclei.

### ---AT Normal Means

#### [1] View the perm debate as a question of net benefits—if you think it’s better to pass the CP, which clarifies the mechanism, than the aff, then vote negative. This means that even if they win that mostly likely that the CP is normal means, that’s not a disad to passing the CP instead. There’s still a risk that something other than the resolution is better.

#### [2] Normal means flows neg—

#### [A] Space programs were the source of nuclear fuels

#### [B] Empirically proven—the CTBT bans peaceful weapons

World Nuclear ’18 World Nuclear. "Peaceful Nuclear Explosions." December 2018, <https://www.world-nuclear.org/information-library/non-power-nuclear-applications/industry/peaceful-nuclear-explosions.aspx>. [Premier]

Possible applications for peaceful nuclear explosions include: Large-scale excavation to create reservoirs, canals and ports. Stimulating oil and gas recovery. Creating cavities for underground oil, gas or waste storage. Extinguishing gas field fires. Space propulsion. Interception of potentially dangerous Near Earth Objects (asteroids, etc). Recovering oil from oil shale. Energy production via molten fluorides underground producing steam for electricity. Breaking up copper and phosphate ore preparatory to mining. Of these, the first four have been tested (and even applied in some cases by the USSR) while the remaining five have been investigated but not tested.A total of 151 PNE experiments have been carried out by both the USA (27) and the USSR (124 plus 32 tests that helped develop explosive devices used in PNEs). No other country has ever carried out a PNE testa and there are currently no moves towards a resumption of tests. Some advocates claim that PNEs would be the most economically feasible method of carrying out large terrestrial engineering projects, and that they provide one of only a few feasible means of managing large gas field fires and destroying chemical weapons. However, a significant concern is that the widespread commercial introduction of PNEs would represent a security risk – increasing the number of nuclear explosives and their locations, along with civilian accessibility.PNE programs resulted in some international collaboration. Following an approach from the Soviet Union to the USA, the first of four bilateral discussions on PNEs was held in Vienna in April 1969. Subsequent meetings were held in Moscow (1970), Washington (1971), and Vienna (1975). In the course of these meetings with scientists from the US Plowshare Program (see next section), Soviet scientists unveiled some of the technical details of their first few PNE experiments as well as general plans for several applications they were developing. In the early 1970s, the Soviet Union also provided information on the scope and technical results of some of their activities through a series of meetings on PNEs at the International Atomic Energy Agency (IAEA) in Vienna. PNEs will be banned under the Comprehensive Nuclear Test-Ban Treaty (CTBT) when it eventually enters into force (see section below on Treaties governing the use of PNEs).

#### [3] Chilling DA—the aff’s lack of legal clarity itself is a DA since countries will always err against violating prohibition. The CP makes clear that asteroid interception is allowed.

### 2NR – Solvency Deficits

### ---AT Used by Military

1] PIC abolishes delivery systems and hair trigger alerts so bombs can’t launch

2] PIC shifts control of the nukes to environmental agencies in charge of regulating fracking – they don’t have the capability to sink

3] Durable fiat stops states from developing militarized nuclear weapons. Circumvention applies to the plan too so the only difference is that space programs are easier to develop under the PIC.

4] Totally non-unique—if a country wanted to secretly develop weapons they could just divert materials from power plants.

### ---AT Waste Disposal

1] waste disposal inevitable – power plants and other nuclear tech – the aff doesn’t solve

2] PIC solves – nuke waste can be used in fracking to extract gas – it also solves contamination because nuclear waste sinks into the earth below the rock because it’s really heavy

## 2NR – Theory

### PICs Good – LD

omitted

### PICs Good – Policy

omitted