### Conditionality Good 2NC

#### First our offense-

#### 1- Critical thinking- Reacting to multiple attacks increases aff ability to evaluate their best arguments and collapsing down teaches the neg to make strategic, reactive decisions- that’s key to decisionmaking skills

#### 2- Negative flexibility- The aff gets to parametricize the rez by picking one example- its an inherent advantage because they know way more about their *one* aff than the neg who has to be prepared for *every* aff- the only check is to advance multiple cps

#### Now our defense-

#### 1- Not “infinitely” regressive- time limits and quality of argument create a limit. Our interp is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#### 2- Ground- Aff can always make “aff key” args and addons- it’s offense against any and all CPs

#### 3- Strat and time skew are inev- The alternative to multiple advocacies is more T and Das- those require just as many answers and create strategic double binds too

#### 4- CPs aren’t uniquely complex and perms check the advantages of neg fiat- a SKFTA CP is way less threatening than a SKFTA DA because you can perm it

#### 5- To vote aff you have to believe the debate is irreparably damaged by conditionality- it might make debate hard but not impossible

#### 6- Don’t be fooled by “reciprocity”- the aff’s job is to pick the question of debate and the neg’s is to find a way to disprove it- that’s why stability is important for the aff and flexibility is key for the neg

## T

#### Predictable Limits – There are hundreds of factors that influence whether solar power gets produced – Allowing affs to promote factors of production means they could incentivize students to go into STEM or subsidize R&D. Only requiring the aff’s incentive be CONTINGENT on production creates a predictable limit on aff mechanisms

#### Ground – Incentivizing capital instead of production means the aff doesn’t have to defend “production good.” At best they are effectually topical which guts stable CP and DA ground and forces us to concede solvency to get back to square 1.

#### Energy production, in the context of solar power, is the generation of electricity – that’s EIA. The aff doesn’t incentivize the generation of electricity from solar power, it incentivizes creating facilities/equipment. Their incentive is totally de-linked from production. Incentivizing a kid to do well on a test is not the same as giving him a pencil.

#### More ev –

Energy.ca.gov – 2012, Glossary of Energy Terms, <http://www.energy.ca.gov/glossary/glossary-s.html>

SOLAR POWER - Electricity generated from solar radiation.

#### Prefer ev specific to solar power - “energy production” is specific to the type of fuel

EIA – no date (accessed 8/28/12), Glossary: production, <http://www.eia.gov/tools/glossary/index.cfm>

Energy production: See production terms associated with specific energy types.

#### \*\*“For” means the incentive must have a direct relation to its object – energy production. The aff’s incentive does not have a DIRECT RELATION to the conversion of the sun’s heat into electricity. Incentives for facilities and equipment exist whether or not the energy is produced

Ogden et al, researchers at CAP, 8

(Peter Ogden, senior policy analyst at the Center for American Progress, John Podesta, president and CEO at the Center for American Progress, John Deutch, trustee at the Center for American Progress, Institute Professor at MIT, “Ending the Inertia on Energy Policy”, National Academy of Sciences Issues in Science and Technology Brief, http://www.issues.org/24.2/ogden.html)

It is important to note that different measures have different incentives. Production tax credits (such as those for wind power) and guaranteed purchases spend government money on projects that successfully produce some product, whereas loan guarantees are designed to provide protection for the investor even if the project fails.

#### AT: Reasonability

The impact and we meet debate proves you create an unreasonable standard- “you make debate impossible” is different from “let’s have one less Aff bro,”- we don’t link to their characterization

“Debatability” is arbitrary and kills education- a Lacan K makes the Neg able to debate you but doesn’t give in depth education or clash- no terminal impact to “bad Aff ground”

Reasonability only mixes definitions and creates a confusing standard for T- democracy topic proves vague definitions push the Aff to bad, throwaway cases and forces the Neg to go for bad process CPs or generic Ks over substance- a standard definition is the better world- leads to a race towards the best definition for the topic

## Calif

### California CP – 2nc Solvency

#### California can solve the aff --- California based company already provides mobile solar power to other countries to cope with emergencies. This evidence also proves the status quo is solving the aff.

Kelly-Detwiler, 11/14 (Peter, 11/14/2012, “Mobile Solar Generators - One Man's Odyssey to Bring Power Back to New York,” <http://www.forbes.com/sites/peterdetwiler/2012/11/14/mobile-solar-generators-one-mans-odyssey-to-bring-power-back-to-new-york/>)

This concept of solar power in disaster relief is not new. In the aftermath of 1989’s Hurricane Hugo, a portable solar generator supplied as community center for six weeks after the storm. After Hurricane Andrew in 1992, PV systems were brought in to provide power to shelters and streetlights. In the California Northridge earthquake in 1994, PV kept some communications links open. More recently California-based Mobile Solar freighted 6 units to Japan immediately after the Fukushima disaster, providing communications and battery charges to workers struggling to rebuild. And a project is underway today to create a solar-powered water purification system to supply the needs of 750-1500 people per day.

In the aftermath of Sandy, it is clear that we have much work to do to plan for prevention, resiliency, and recovery. Micro-grids will be a critical piece of this puzzle. But solar generators can play a key and reliable role in disaster recovery and getting communities back on their feet. They are doing so today in some of the hardest hit areas of the East Coast, and they merit serious consideration..

#### A California based company can provide solar power generators to emergency areas. Effective deployment in the wake of Hurricane Sandy also proves the status quo solves the case.

Renewables West, 12 (11/14/2012, “BREAKING NEWS: SUPERSTORM SANDY RELIEF FROM MOBILE SUNPOWER,” <http://www.renewableswest.com/>)

San Leandro, CA – Wednesday 14 November 2012. Yesterday, a lot of New Yorkers saw something roll in they’ve never seen before: a mobile solar power generator. This particular solar generator has a 5kW+ solar PV array with massive battery storage and a hybrid backup 30kVA diesel generator on board to guarantee 24/7 electric power generation for emergencies.

The “SolaRover” generator was driven overnight from Colorado to New York to help victims of Superstorm Sandy. Clean, zero-carbon-footprint, electrical power is created from the Sun and stored in batteries on the custom-built trailer. This is new technology who’s concept grew out of Katrina, as a response to the many problems of diesel generators that didn’t start, didn’t have enough fuel or couldn’t be reached by fuel trucks for resupply.

Today, Wednesday, 11/14, the SolaRover generator is in use at Citi Field (NYC response center) powering command trailers and lights.

Thursday, 11/15, the generator will move to the Rockaways, powering a local medical clinic at 196 Beach at 113th, Rockaway Park, NY. The generator will be in service here for at least several days.

We’re working to provide electrical power for victims of every natural disaster, to be put in place in strategic locations to generate electricity on a daily basis, and ready to deploy when the inevitable disaster happens. Solar generators are quiet, clean, emission-free, and require almost no maintenance. Compared with 25kVA-class diesel generators, over the 20-year lifespan of solar generators, savings of 40 to 70 percent or more can be realized. And that’s at current fuel prices.

SolaRover Inc. manufactures generators in Indiana, with most of its parts manufactured also in the USA.

Here are a couple of recent news links about the product whose president and CEO, John Spisak, is interviewed.

http://www.9news.com/money/299401/75/Local-company-trying-to-help-Sandy-victims

http://www.youtube.com/watch?v=GybumLCvhwQ&feature=youtu.be

Early this year, General Russell L. Honoré, US Army (Ret), the “John Wayne of Katrina” saw the unit at the Int’l Disaster Conference & Expo in New Orleans, and was very impressed with it. He expressed the need for it for disaster relief universally. If hundreds of these units were deployed across the country, many lives would be saved or certainly made more comfortable during disasters. This is cutting edge futuristic technology at work today, helping people in a great time of need, and it would be wonderful if you got a look at the SolaRover in action. You also could see it on our website at solarover.com .

Last year we demonstrated an emergency water desalination-purification trailer, capable of providing drinking water to 10,000 people in an emergency, at the San Leandro Marina.

Renewables West, the premier dealer for SolaRover, provides mobile/portable energy from its trailer-mounted 2.5kW mobile solar power generator in the Bay Area. The SolaRover Mojave-1 solar generator has on-board battery storage of 30+ kWHours, and can provide 7.2kW of energy with a 10kW peak. The battery storage provides power for night-time operations and extended non-sunny weather periods. Our solar generator has provided power for a variety of music and event venues, green construction sites to help with LEEDS points, and it performs a role in providing rapid-response power production for emergencies and disasters, and disaster training for earthquakes in California.

Renewables West, in San Leandro, California, specializes in mobile, portable and emergency solar power systems. Renewables West is a division of Mr. Plastics, a San Leandro business serving Bay Area customers for over 27 years.

### 2nc Solvency – CEMA Shares

#### CEMA will share in a disaster – Sandy proves

Mark Truppner – 11/6/12, California Helping Victims Of Hurricane Sandy, http://www.mymotherlode.com/news/local/1852203/California-Helping-Victims-Of-Hurricane-Sandy.html

Governor Jerry Brown directed the California Emergency Management Agency and California National Guard to send specialized assistance to the east coast to help in responding to Hurricane Sandy. Brown was Tuesday's KVML "Newsmaker of the Day". Last week, the California National Guard sent military transport aircraft carrying two helicopters and two highly trained Pararescue teams with their equipment to Charlotte, North Carolina. Aircraft were also deployed including a Boeing C17, two C130 aircraft and two HH-60 Pave Hawk helicopters. A total of 83 personnel were positioned close to the affected areas for quick deployment. These teams are trained in medical aid, search and rescue and other emergency response activities. Ten members of California's Urban Search & Rescue Incident Support Teams were sent to Virginia and other east coast areas in support of Federal Emergency Management Agency (FEMA) requests. This team included first responders from Riverside, San Diego, Sacramento City, Sacramento Metro, Los Angeles City and County and Orange County Fire Departments. The California Emergency Management Agency was also working with the California Utilities Emergency Association in order to deploy utility crews and equipment as power outages continue to be widespread. Requests for assistance from California are coordinated through FEMA and the Emergency Management Assistance Compact (EMAC) - a system that allows states to send personnel, equipment and commodities to help disaster relief efforts in other states.

### AT: Only Army Corp of Engineers Has Jurisdiction

#### Not true – their Anderson ev says that the ACE is the agency that the DOD has appointed to be the DOD’s representative to FEMA – like 15 different federal agencies are involved in disaster response.

# Case

## GPW

### AT: No War --- AT: Democracy Solves

Douglas Ross 4 --- professor - Political Science - Simon Fraser University founding director of the Canadian Centre for Arms Control and Disarmament in 1983 and served on the national policy advisory group for the Canadian Ambassadors for Disarmament from 1986 to 1993, Weapons of Mass Destruction and the End of War?, Violence and its Alternatives—THE CONTINUING SERIES, Spring, 2004, http://journals.sfu.ca/humanitas/index.php/humanitas/article/viewFile/60/62

Schell’s argument is appealing, but it is

less than convincing. While it is true that

the democratization of Germany and

Japan after World War II led to the virtual

de-bellicization of their populations,

and while the emergence (however

halting and episodic it might be) of a

unified Europe portends an end to the

risk of war emanating from that region,

such developments cannot assure us

that the causes of war are about to

eliminated from the international

system. To be sure, the collapse of the

Soviet state spelled the end of the last

great European territorial empire, but

this hardly can be taken to guarantee

that no other state will ever again aspire

to old-style imperial rule. Chechen

separatism or secessionism by other

minority peoples in Russia may yet,

through violent repression, unleash

retrograde, atavistic political forces.

Large parts of China’s territory are in fact

at risk of secessionist dismemberment

as well. And no Indian political party is

ever likely to publicly assent to the

secession of Kashmir. Democratic

governance does not eliminate

nationalism, rather it can in fact lead to

its magnification and intensification—

especially if governments are unable to

deliver promised economic progress in

the short-term.

### AT: No War --- AT: Nukes/Deterrence Solves

Douglas Ross 4 --- professor - Political Science - Simon Fraser University founding director of the Canadian Centre for Arms Control and Disarmament in 1983 and served on the national policy advisory group for the Canadian Ambassadors for Disarmament from 1986 to 1993, Weapons of Mass Destruction and the End of War?, Violence and its Alternatives—THE CONTINUING SERIES, Spring, 2004, http://journals.sfu.ca/humanitas/index.php/humanitas/article/viewFile/60/62

The central point that needs emphasis is

that the ‘nuclear peace’ is far from

secure—indeed it is getting more

insecure with each passing year. The tide

of technological innovation is sweeping

around the world just as fast or faster

than the tide of democratization. Viewed

from this perspective the risk of repeated

wars in which nuclear and/or biological

weapons are used is probably rising, not

diminishing. And once the first true

‘two-way’ nuclear/biological conflict

occurs the floodgates on proliferation

may really open—thus setting the stage

for repeated wars of genocidal attack.

The risk of self-induced human

extinction is thus also likely to be rising,

not falling.

### AT: No War --- Yes Risk of Great Power War/AT: Nuke Deterrence Solves

Risk of great power war’s present ---

Commander Gregory E. McRae 9, US Navy, Reconceptualizing the Global War on Terror, March, 2009, http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA498760

Wars are waged by politicians who are charged with protecting the interests of a

population or a culture or ethnicity. As Clausewitz said, “war is an extension of policy (political intercourse) by other or alternative means.”28 One has to view political intercourse here to encompass all groups of people with leaders making decisions for the group, whether they are religious, cultural, or state-based. As discussed earlier, political does not have to mean nation-state politics. Clearly political groups fight over interests, but there’s more to it than that. The Commission on America’s National Interests identified four prioritized categories of national interests ranging from high to low intensity (Survival, Vital, Important, Peripheral).29 The presumption is that a nation’s likelihood of going to war is highest for interests related to survival and lowest for peripheral interests. History has shown that populations fight over actual or perceived credibility, honor, natural resources, international structure, power and fear. Most political organizations tend to fight for one of these reasons. In the Peloponnesian War, the Melians fought out of honor.30 Similarly, for the Pashtuns in modern day Afghanistan, honor is the driving force behind their decision-making.

Wars are fought by political organizations for the reasons previously discussed. These political organizations include states as well as non-state actors, ethnic groups such as the ethnic Serbians, religious groups such as Hezbollah or the Irish Republican Army, and cultural groups such as the victims of apartheid in South Africa. Wars are fought by armed representatives of political groups whose leaders have declared war with other political entities. These representatives most often come from the population of the political group waging war, and may be volunteers or conscripts. In some cases throughout history, professional warriors have been used to wage war on behalf or in support of a political group. Take, for example, the Cossacks involvement in fighting on behalf of Russia against Napoleon in the early 19th century.31 Policy is driven by politicians, and war is a continuation of policy, therefore, politicians must be constructively involved throughout the war to ensure the proper strategic ends are accomplished.

Victory in warfare is achieved when the enemy loses the ability or the will to continue fighting and the policy objectives requiring the initiation of war in the first place have been met. Thus, victory is defined by the victor since only he can know if he has achieved his purpose, but it must be confirmed by the adversary to be a clear victory. Victory in war must include breaking the will of the enemy leadership to continue the fight, but does not necessarily have to include breaking the will of the people. Thomas Schelling accurately observed that “military strategy can no longer be thought of … as the science of military victory. It is now equally, if not more, the art of coercion, of intimidation and deterrence. Military strategy … has become the diplomacy of violence.”32 Traditionally, total wars are thought to be brought to an end through one of three forms of strategy: annihilation, attrition and exhaustion. Schelling’s view offers an alternative to these total war concepts. If one accepts his proposition, the end state is achieved when the enemy loses his will to conduct future combat operations, and not necessarily when his military is destroyed, his combat personnel are reduced to the point of being ineffective, or his population or leadership is exhausted.

The fundamentals of warfare have not changed. At its heart, war will always be about the use of physical force at the tactical and personal level to compel an enemy to bend to one’s will. While the fundamentals of war are unchanging, the methods of executing war are in a state of perpetual evolution. Globalization has had a tremendous effect on warfare and continues to alter its application. The explosion in global communications capabilities, the globalization of many of the world’s economies, and the expansion of international travel has permitted the development of a new type of political organization. Al Qaeda operates throughout the world, maintains no permanent home address, affiliates with no currently recognized nation-state, consists of combat troops hailing from over 60 countries, and has a membership united around a central religious belief in creation of a great Islamic state. Such an organization could not have existed 20 years ago. Couple this new type of organization with the increased ability for small groups to wage war against nation-states using biological weapons and the increased effectiveness a determined group could have on any global resource, as Colonel T. X. Hammes points out, and the nature of the threat in the 21st century has certainly evolved.33

Additionally, great power war is still very much a possibility due to the presence of traditional powers such as Russia and China and the potential of future conflict between powerful nations. While the advent and proliferation of nuclear weapons among several traditional powers has seemingly kept great power war in check since 1945, the proposition that traditional great power war is extinct due to the threat it may escalate into nuclear warfare is irresponsible. Similarly, globalization has had some potential positive effects on traditional warfare. Many believe that economic interdependence will reduce the likelihood of future conflict between nations that are dependent on each other for prosperity. The United States’ relationship with China is the example most often cited. This assertion neglects the historical record that clearly and consistently illustrates that predicting human behavior in terms of our capacity to do harm to our fellow man is tenuous, at best. Thus, to base our national security strategy on such a tenuous hypothesis would be negligent. Future warfare will include elements of traditional war, but will also be characterized by an increase in irregular and asymmetric warfare.

War is innate in human behavior. In the Christian New Testament, 2 Timothy 3:12 states, “In fact, everyone who wants to live a godly life in Christ Jesus will be persecuted, while evil men and impostors will go from bad to worse, deceiving and being deceived.”34 Conflict will always persist throughout the world and will, at times, result in armed conflict in support of a political objective. While modern warfare has evolved, as Colonel T. X. Hammes says, from traditional great power wars to 5th generation warfare, at the fundamental level it has not changed.35 It is still about applying force to impose will. Military leaders have the responsibility of ensuring political leaders and their respective populations understand this basic tenet of human conflict.

## Grid

#### Grid is resilent – Katrina proves

James Andrew Lewis – senior fellow and director of the Technology and Public Policy Program @ CSIS - March 2010, The Electrical Grid as a Target for Cyber Attack, http://csis.org/files/publication/100322\_ElectricalGridAsATargetforCyberAttack.pdf

This conclusion is different from the strategic consequences on a cyber attack on the power grid. The United States routinely suffers blackouts. The nation does not collapse. In the short term, military power and economic strength are not noticeably affected - a good example for opponents to consider is Hurricane Katrina, which caused massive damage but did not degrade U.S. military power in or even long-term economic performance. Is there any cyber attack that could match the hurricane?

The United States is a very large collection of targets with many different pieces making up its electrical infrastructure. While a single attack could interrupt service, the large size and complexity of the American economy make it more resilient. Even without a Federal response plan, the ability of electrical companies to work quickly together to restore service is impressive and we should not underestimate the ingenuity of targets to recover much more rapidly than expected. This is a routine occurrence in aerial bombing: impressive damage is quickly rectified by a determined opponent.

## Meltdown

#### No impact to meltdowns

Strupczewski, Institute of Atomic Energy, 03

[1/28/03, A., Institute of Atomic Energy, Swierk, Poland, Applied Energy, “Accident risks in nuclear-power plants,” vol. 75, ScienceDirect]

\*\*\*NPP = nuclear-power plant

\*\*\*TMI = Three Mile Island

\*\*\*OECD = Organisation for Economic Co-operation and Development

1. Safety goals for nuclear power The general safety objective for nuclear-power plants (NPPs) is to protect the individual, society and the environment by establishing and maintaining in NPPs effective measures against radiological hazards. To reach this objective, safety goals for nuclear power were established from the very beginning of its development, and made more demanding as the technology matured. The initial qualitative targets were that no individual should bear a significant additional risk due to nuclear-power plant operation and the societal risks from power-plant operation should not be a significant addition to other societal risks [1]. They were followed by quantitative requirements, which according to US rules set the design targets so that the calculated plant core-damage frequency (CDF) should be less than 10-4 events per reactor year (R–Y) [2], and the calculated large release frequency (LRF) less than 10-6/R–Y for sequences resulting in a greater than 0.25 Sv whole-body dose over 24 h at one-half mile from the reactor. These requirements for NPP design corresponded to the cancer risk to the people in the critical population group equal to 10-10/R–Y [3]. Presently the safety objectives developed by the US and European utilities for the new generation of NPPs include a maximum permissible CDF equal to 10-5/R–Y [4]. It must also be demonstrated that early containment failure is avoided for all risk-significant scenarios. The cumulative LRF must be less than 10-6/R–Y. In parallel with the development of these targets, the nuclear industry and regulators in the countries leading in nuclear safety have developed the contemporary nuclear safety philosophy, which resulted in reducing risks in NPPs far below those risks typical for other power-industry branches. It places the principle ‘safety first’ as its cornerstone and includes several principles that are today the basis of NPP design and operation in all western countries. 2. Nuclear-power plant safety indicators The progress in the safety level of NPPs is reflected in the probabilistic safety analyses (PSAs), initiated in the US in 1975 by the Rasmussen Study and systematically developed to become standard tools used for safety analysis of every NPP. The importance of PSA in the evaluation of NPP safety is due to the fact that there has been only one severe core damage accident in water-moderated reactors, namely the Three Mile Island accident in the USA in 1978, so there are no historical statistical data as for coal-mine accidents, oil-transport accidents, gas explosions or dam breaks. Minor incidents that do happen in NPPs, although they are eagerly publicized by the media, usually are far below the level at which any hazard to the plant or the public would be involved. Moreover, in view of fast improvements of NPP technology, the analysis of the safety of the plants to be built cannot be based on historical experience with the plants put into operation 20 or even 10 years ago, but must reflect the actual safety features of the upgraded new designs. PSA makes it possible to study the new design features and evaluate which of the safety improvements will bring the required safety upgrading. The main condition for preventing massive releases of radioactivity is to maintain the reactor containment integrity, first of all in the early stage of the accident, then in the later stages when the releases of radioactivity would be less but still significant. In the middle of the 1990s, several mechanisms were considered as possible contributors to an early containment failure. Over the last decade, the intensive research and development of the technical means of coping with severe accidents have resulted in our being able to treat these issues as resolved. The results of several reactor-safety studies performed in Western countries show that the safety of the modern NPPs is very high. For example the German risk-study phase B [5] indicated that the frequency of core melt in Biblis B NPP was 10-4/(R– Y) and that of large radioactive releases 2.6x10-5/(R–Y). After taking into account operator actions preventing the reactor’s pressure-vessel melt-through under high pressure, the frequency of the core melt frequency was reduced to 2.6x10-6/(R–Y). Subsequent analyses performed for KONVOI plants [6] gave similar results, with absolute numbers lower due to improvements in the KONVOI type plants as compared to the Biblis B. Core-damage frequency without bleed and feed in KONVOI plants was 1.4x10-6/R–Y, and after considering the effects of operator actions in those plants, the CDF was reduced to 3.5x10-7/R–Y. These results can be considered as typical for modern PWRs. The project for the European Pressurized-Water Reactor (EPR) assumes that the design will limit the maximum possible releases so that the following safety objectives will be reached: 1. No need for short-term (about 24 h) off-site countermeasures 2. No need for population evacuation beyond 2–3 km 3. For long-term countermeasures, limited restriction of the consumption of agricultural products for a limited period (about 1 year) in a limited area is acceptable [7]. This is the level of safety of NPPs expected as a reference base in the future. Specific designs, which have been already licensed for construction, include reactors with passive safety-features AP 600 or Advanced BWR [8], for which the CDF is below 2x10-7/R–Y. The releases of radioactivity are at least ten times smaller and the health risks are negligible. 3. Radiological effects of nuclear-power plant accidents The level of safety of modern NPPs is surprisingly far from the mass-media picture of consequences of a nuclear accident. Actually, the only accidents with radioactive releases in NPPs were those in TMI and in Chernobyl. In TMI there was a reactor-core melt, but the integrity of the remaining barriers (reactor pressure vessel and containment) was maintained and the releases were so limited that the average effective dose to the public was 0.015 mSv [9]. The corresponding cancer risk was below 10-6 per lifetime, less than the risk due to NORMAL yearly emissions from a coal-fired power plant at that time [10], and no health effects have ever been identified. In Chernobyl, the quantities of released fission products were significant, from 100% of noble gases down to about 4% of solid fission-products. The doses in the early phase after the accident were high. In the rescue team, 28 men died in consequence of exposure to radiation and several more of those who were treated for radiation sickness died from illnesses that may have been associated with their exposure. However, as confirmed in the UNSCEAR report of 2000, there has been no statistically significant increase in the incidence of leukaemia or any other form of cancer among workers or the public (except for child thyroid cancer), nor of deformities of babies born to members of the public [11]. An increase in the incidence of occult thyroid cancer was predicted to occur after 10 years, but actually it was found already in the first year after the accident [11]. This shows that the screening effect can be largely responsible for this observed increase. Generally the occult thyroid cancer is not fatal and can be successfully treated. Although some 2000 cases of thyroid cancer are attributed to the accident, less than 10 fatal cases have been observed. Much greater damage to health has been caused by well meaning but misguided attempts to protect and help people living near Chernobyl at the time of the accident. The evacuation of hundreds of thousands of them is now seen as an over reaction, which in many cases did more harm than good. The first reaction was to move people out. Only later, was it realized that many of them had not needed to be moved. The relocation of people destroyed communities, broke up families, and led to unemployment, depression, hypochondria and stress-related illnesses. Among the relocated populations, there has been a massive increase in stress-related illnesses, such as heart disease and obesity, unrelated to radiation. A major factor causing distress has been uncertainty about risks and in particular belief that all radiation doses can lead to cancer, as stated in the Linear No Threshold hypothesis presently used for the purpose of radiological protection. The recent report of UNPD and UNICEF [12] confirms the above statements and acknowledges that the people living in the contaminated areas receive low doses of radiation, being less than those occurring naturally in many other parts of the world. This is illustrated in Fig. 1 taken from [13] comparing lifetime doses to people around Chernobyl with the doses in European countries including Finland and Sweden, in which the population enjoys very good health and low cancer rates in spite of the high radiation background. According to Russian sources, medical monitoring of the clean-up staff has shown no increase of cancer rate and no relationship between the dose and the mortality. The overall mortality rate among the clean-up staff was statistically lower than the mortality rate of the control group from the public [14]. The UNSCEAR report also confirms that no radiation illnesses (with the exception of child thyroid diseases) have been found in the exposed population [11]. Thus, although it should be acknowledged that the effects of the Chernobyl accident are important, it should be also stressed that most of them are due to excessive fear motivated and politically expedient decisions, not to the radiation doses themselves. The NPPs planned to be built are completely different from RBMKs. The negative temperature reactivity coefficient ensures that, in accident conditions, their power will decrease, not increase as in Chernobyl, the containment (which did not exist in Chernobyl) would remain intact even after severe accidents and the accidentmanagement procedures and safety-upgrading measures implemented in the NPPs would prevent such large releases of radioactivity as was the case in Chernobyl. Thus, the radiological results of Chernobyl cannot be treated as representative of nuclear accidents in NPPs. The estimates of probable releases are made for each NPP separately within PSA studies and generally show that the hazards are much smaller than for other energy sources. 4. Comparison of nuclear-power risks with accident risks due to other energy sources The risks of electricity generation should be evaluated considering the whole cycle, from fuel mining to plant construction, to waste management and site recultivation. While in the case of the nuclear-fuel cycle, the accident risks are mostly connected with the power plant, in other fuel cycles the dominant contribution can be made by other fuel stages. For example, in the case of coal mining, the fatality ratio in the US is about 0.1 death/million tons or 3.5 death/GW(e).a [15]. In very large regions of the world, the situation can be much worse. In China, the average value for the country was about 4.6 deaths per MT in 1997 [16] and the number of mining fatalities per unit of energy produced from coal was 17 deaths/GW(e).a. In addition to that, the accident death rate in coal-fired power plants was about 2 deaths/GW(e).a [17] and in coal transport sector 8.5 deaths/GW(e).a [17]. These numbers add up to the accidental mortality in China coal power system being equal 27.5 deaths/GW(e).a. The number of fatalities due to severe accidents (involving more than 5 fatalities each) for the coal chain in OECD countries is 0.13 per GW(e) [19]. In non-OECD Fig countries, it is much higher. The everyday occupational hazards for the coal chain will be taken as 1.27 fatalities/GW(e).a according to [18], that is for European countries. It is seen, that the small accidents involve more fatalities than the large ones, so both numbers must be taken into account. The differences of the safety of hydropower in OECD and non-OECD countries are most pronounced. While the fatality ratio for OECD countries is only 0.004, it is 2.187 for non-OECD countries [15]. The data on dam safety show that differences in technology and safety practices influence very much the risk of power generation from a given facility. These differences are taken into account while discussing risks of the conventional power industry and nobody discussing the safety of a dam to be erected in the twenty-first century would base its safety indicators on accidents of dams built in say 1920. In a recent ExternE report on hydropower, the authors do not include any risk due to damfailures in the overall health risks due to hydropower [18], because they maintain that the dams built in Norway provide ‘‘negligibly small risk’’. Similarly, the progress in coal-mining safety is taken into account while estimating the number of fatalities per GW(e).a. Of course this is a correct approach. However, if we take into account the progress in dam construction before and after 1930, then the differences in NPP technology existing between RBMK reactors and LWR NPPs should be also considered. Similarly, if introducing strict regulations requiring qualified engineering supervision had a strong effect on dam safety, it is evident that the whole concept of safety culture implemented in Western NPPs has also a significant influence on nuclear-reactor safety. As the differences in design between modern PWRs and the Chernobyl RBMK are much more significant that any differences in dams erected in Norway versus those built in the USA, Italy, France etc., then following the logic accepted by EC ExternE study, the hazards due to Chernobyl should not be considered as the basis for evaluating the safety of future NPPs.