Peace Now!

Volume 8 : Issue 2, August 2010 The Bulletin of the Coalition for Nuclear Disarmament & Peace

EDITORIAL

The interlude since the last issue in February was quite eventful on the nuclear front.

As the selection of articles here would indicate, nearer home, the 'Civil Liability for Nuclear Damage Bill 2010' is a hot topic right now, hogging all out attentions. And, it was the Nuclear Non-Proliferation Treaty (NPT) Review Conference (RevCon) 2010 from May 3-28 which was very much on top of the global agenda.

But even before these, as a follow up of the Indo-US nuclear deal, which prized open the doors of the global nuclear market for India shut tight since the first nuclear explosion by India on may 18 1974, a nuclear fuel reprocessing deal was rather unobtrusively struck between India and the US. Again, India could extract concessions beyond the originally envisaged framework of the deal. Pursuant to the "Agreement for Cooperation Concerning Peaceful Uses of Nuclear Energy [the Indo-US nuclear deal], with Agreed Minute, signed at Washington, on October 10, 2008 ("the Agreement for Cooperation"), which entered into force on December 6, 2008", this subsidiary deal allows India to reprocess spent

Contents

nuclear fuel originating from out of imports from the US in two installations as opposed to a single dedicated facility originally envisaged. Even the provision relating to suspension of such reprocessing on the ground of Indian misdemeanour is more lenient than usual. That's a coup of sorts notched up by the Indian negotiators at the end of hard bargaining. But the success may make the process of granting of DOE approval for nuclear exports to India under regulation 10 CFR Part 810 all the more tricky. Beyond that it poses an additional threat to the current non-proliferation regime. Now even other (non-nuclear weapon) states would be clamouring for reprocessing rights. Friction is already developing between the US and South Korea, a long time US ally, on this score.

At the same time, Pakistan and China reportedly inked a deal on the lines of the Indo-US one for supply of two additional nuclear reactors by China to Pakistan for its Chashma plant sans the NSG approval as had been granted by the international body for the initial two reactors in 2004 as part of China's pre-existing commitments. This was on October 15 2008, four days after the Indo-US deal having been signed. It may be recalled that Pakistan's persistent clamour for a similar deal had been rudely rebuffed by the US. India is intently trying to block its execution. But the chances of success look to be dim. More so as the 46-member Nuclear Suppliers Group (NSG) meet at Christchurch in New Zealand from June 21-25 had to eventually look away from this controversial issue. The meet also failed to adopt new guidelines that would have led to the denial of enrichment and reprocessing (ENR) technology to countries like India that have not signed the NPT. Whatever that be, the Pak-China deal seems to be on course. It is after May 18 1974, when India carried out its first nuclear blast, the then Prime Minister of Pakistan, Zulfikar Ali Bhutto, would proclaim that Pakistanis are ready to eat grass if necessary to make nuclear bomb. And, finally, it is May 11, and 13, 1998 that made possible for Pakistan to carry out its own nuclear explosion just in a fortnight's time on the following May 28 and 30. Now, again a repetition of the same story, as it looks. An Indian initiative, in defiance of obtaining international norms and perceived to be a grave threat by Pakistan and thereby strongly resented, opens up an avenue for a similar move by Pakistan in an even more brazen manner.

In this issue we have included thoughtful and informed articles on the NPT RevCon 2010. It includes the CNDP appeal to the State Parties participating in the Conference. Also, one by an Australian activist who had been at the Ground Zero. The RevCon eventually failed to actualise all the high hopes raised in its run up but was nevertheless a strikingly welcome departure from the grim outcome of the preceding one fiver years back.

As noted above, the 'Civil Liability for Nuclear Damage Bill 2010' is at the moment engaging all our attention. The CNDP, as an organisation, is keenly engaged with the issue, at the frontline of the campaign against it, repeatedly petitioning the concerned authorities. Her we've included the latest CNDP petition to the Parliamentary Standing Committee which is examining the draft Bill at the moment and also a very detailed article examining the issue, the legal aspects in particular.

We've also included articles on nuclear power - its new promises, and the latest Nuclear Posture Review by the US.

Hope the readers will find all these relevant and useful.

A. Nuclear Non-Proliferation Treaty Review Conference 2010

I. CNDP Appeal to the State Parties

APPEAL TO THE 2010 NPT REVIEW CONFERENCE

Taking due note of the considered observations of the International Commission on Nuclear Non-Proliferation and Disarmament that:

> *"So long as any state has nuclear weapons, others will want them. So long as any such weapons remain, it defies credibility that they will not one day be used, by accident, miscalculation or design. And any such use would be catastrophic. It is sheer luck that the world [barring Hiroshima and Nagasaki] has escaped such catastrophe until now."*

And that

> *"It is neither defensible nor sustainable for some states to argue that nuclear weapons are an indispensable, legitimate and open-ended guarantor of their own and allies' security, but that others have no right to acquire them to protect their own perceived security needs."*

the National Coordination Committee (NCC) of the Coalition for Nuclear Disarmament and Peace (CNDP), India, submits as follows:

The 2010 NPT Review Conference in New York could emerge as a momentous global event if it redeems the promises and hopes that the Nuclear Non-Proliferation Treaty (NPT) has potentially held out for humankind. To enable the NPT to live up to its potential of being a means for moving towards a world without nuclear weapons, the NCC of CNDP, India, hereby, appeals to the signatories to the NPT to earnestly consider and adopt the 13 proposals set forth below.

For the systematic and progressive efforts to achieve nuclear non-proliferation and disarmament, it is urged that the parties to the 2010 NPT Review Conference accede to the following:

1. That all nuclear-armed states undertake to guarantee unequivocal negative security assurances (NSAs), supported by binding Security Council resolution, that they will not use nuclear weapons against NPT-member non-nuclear weapon states under any circumstances. The logic is unassailable; countries that have foresworn nuclear weapons are entitled to guarantees of non-use of the weapons against them.

2. That, considering the use of nuclear weapons by anyone at any time, whether by accident, miscalculation or design, would be catastrophic and considering they have the capacity to wholly destroy life on this planet, the nuclear weapon states undertake to delegitimise nuclear reliance and reinforce the nonproliferation regime by declaring the use of nuclear weapons a crime against humanity.

3. That, affirming the commitment to diminish the role of nuclear weapons in security policies pending the ultimate elimination of nuclear weapons, and affirming that the sole purpose for nuclear weapons is to deter the use of nuclear weapons, every nuclear-armed state undertakes forthwith to make an unequivocal "no first use" (NFU) declaration.

4. That, since the continuing Cold War-style nuclear standoff between the United States and Russia is an absolute scandal, all nuclear weapon states, declared or undeclared, must take time-bound steps in a stage-wise manner to lower the levels of operational alertness of nuclear weapons by taking them off hair-trigger, high alert and continuous deployment configurations. That it is indisputable that "de-alerting" would help alleviate risks associated with mistakes, coups, attacks on nuclear weapons facilities, false warnings, unauthorized launches, and hacking into command and control systems.

5. That all nuclear weapon states undertake to explicitly commit not to increase the number of their nuclear weapons or modernize their nuclear weapon capabilities and, as well as, reaffirm the principle of irreversibility, steps which effectively would result in a freeze on production and modernization of nuclear weapons and their delivery systems.

6. That the concerned nuclear weapon states undertake to forthwith end deployments of nuclear weapons outside the territory of possessor states and the non-nuclear weapon states, which permitted hosting of such weapons on their territories, undertake to withdraw such permission forthwith. The concerned parties admit that both deployments as well as hosting of such weapons constitute gross violation of Articles I & II of the NPT.

7. That the State-parties to the NPT, and non-NPT member states, should support ratification of the Comprehensive Nuclear Test-Ban Treaty (CTBT) with a clear-cut definition of what constitutes a "nuclear weapon test explosion" and explaining the difference between "test" and "use" of nuclear weapons. All the NPT as well as non-NPT member states should further agree to dismantle all existing nuclear test sites, environmentally clean up the same, and impose a ban on sub-critical nuclear tests or any other activity intended to test the efficacy of nuclear weapons.

8. That the State-parties to the NPT, and non-NPT member states, agree to consider ways and means to make progress on the NPT commitment of a ban on the production of fissile materials for weapons purposes, taking into account the need to cap, reduce and ultimately eliminate stockpiles of high-enriched uranium and plutonium. The proposed FMCT would ensure that the existing stockpile of fissile material from dismantled weapons, or otherwise, would not be reused for weapon purposes. With a cap on production fissile materials for weapon purposes, appropriate steps would be initiated to universalize application of IAEA Additional Protocols by covering all existing nuclear reactors of all NNWSs and NWSs without exemptions or distinctions.

9. That all nuclear weapon states, declared or undeclared, reaffirm the NPT's unequivocal undertaking to accomplish the total elimination of nuclear arsenals.

10. That the State-parties to the NPT, and non-NPT member states, should support the establishment of a comprehensive, UN-based accounting system covering size of nuclear arsenals, nuclear weapon delivery systems, fissile material stockpiles, and spending on nuclear forces.

11. That the State-parties to the NPT, and non-NPT member states, shall seriously address the issue of "conventional" arms imbalances, both quantitative and qualitative, to ensure that it does not become a significant impediment to future bilateral and multilateral nuclear disarmament negotiations. Concurrent efforts should be made to curtail a conventional arms race as well as to restrict/ban arms trade.

12. That the State-parties to the NPT, and non-NPT member states, shall strongly support the ongoing attempts to prevent an arms race in outer space (PAROS), do everything to restore the Anti-Ballistic Missile Treaty and, as well as, dismantle the Ballistic Missile Programme, which threatens to undo the arms control and disarmament initiatives.

13. That the State-parties to the NPT, as well as non-NPT member states, shall make all efforts to establish a Middle-East Nuclear Weapon Free Zone, a Nuclear Weapon Free Region in South Asia, a Nuclear Weapon Free Zone in Europe, and a Northeast Asia Nuclear-Weapon-Free Zone with the NWS guaranteeing non-use of nuclear weapons against NNWSs.

14. That the State-parties to the NPT, and non-NPT member states, commit to commence preparatory work leading to negotiations on a universal convention or framework of instruments for the sustainable, verifiable and enforceable abolition

of nuclear weapons worldwide.

It is sincerely hoped that the State-parties at the 2010 NPT Review Conference would positively respond to the above Appeal.

01 May 2010

[Available, along with the list of addressees, at <http://www.cndpindia.org/download.php?view.43>.]

.

II. NPT Review Conference 2010: An Assessment

P K Sundaram#

After this year's RevCon, neither the NPT regime is more tightened nor is it really any closer to disarmament. Both pull factors were neutralised by different interests. Is the world learning to live with proliferation through such minimalist compromises?

The 2010 Review Conference (May 03-28) of the NPT took place in the backdrop of overflowing hopes and apprehensions. While the global upsurge of disarmament initiatives in recent times had raised expectations from the RevCon, the spectre of the 2005 fiasco and the tensions over Iran fuelled fears of an imminent collapse. Although successful adoption of the final document by consensus did bring some minimum relief, there have been extreme reactions - both within and among the states and the analysts. To make a clear sense of the developments, one has to keep in mind the pulls and pushes in the NPT regime, specially the direction in which the US and other Nuclear Weapon States (NWS) have been trying to spearhead the regime in recent years and how the world opinion has sobered the unilateralist moves, at least in the middle-term.

The Backdrop

The pressure on the NWS, specially the US, to avoid failure of the RevCon this time and to offer something tangible on nuclear disarmament to the NPT community to this end was visible for quite some time. Recent steps such as the new START treaty with Russia, the revised Nuclear Posture Review, and adopting transparency about the total number of nuclear weapons in US possession coinciding with the opening of the RevCon were basically moves that Hillary Clinton tried to package before the Review Conference as concrete steps towards disarmament. In her opening statement at the RevCon on May 3, Clinton also announced that her administration would submit protocols to the US Senate to ratify participation in the African and the South Pacific nuclear-weapon-free zones. The US had to go for this series of steps, of limited substance but normatively welcome nevertheless, primarily for two reasons - firstly, in order to improve its global standing as a responsible power, a pursuit that also suited President Obama's personal interest in a world free of nuclear weapons. The second and more important reason behind this posturing is an underlying wish to sell this package in return for newer obligations for the Non-Nuclear Weapon States (NNWS), support for US moves against Iran, and making the NPT regime stricter by adding a 'fourth pillar' to it - nuclear security.

Most non-nuclear nations and peace movements rightly see this as an attempt to re-do the initial NPT bargain without delivering anything real on the disarmament promises under Article VI of the treaty. As the Pugwash President Jayanta Dhanapala summed up, the primary contradiction in the NPT regime is that the besides their usual preoccupation with horizontal proliferation, the NWS have been trying to shift the spotlight onto nuclear terrorism and to create an arbitrary distinction between 'good' and 'bad' proliferators, obfuscating the fundamental issue - that nuclear weapons are inherently dangerous in anybody's hands.[1]

Developments in the RevCon

The Review Conference started acerbically with the US and Iran accusing each other of undermining and violating the NPT Treaty. Iranian President Mahmoud Ahmadinejad castigated the US for its continued reliance on nuclear deterrence, support and silence over Israel's nuclear weapons and undermining the NPT by transferring nuclear technology to India, a non-signa-

tory state. Hillary Clinton brushed aside these allegations and sough wider consensus for action against Iran. After the initial statements by states and NGOs, work moved to three main committees on nonproliferation, disarmament and civilian uses of nuclear energy. The outcome of consultations in these committees came on May 24th as President's Draft Final Declaration which after a few revisions was adopted by consensus on 28 May. The final document of 28 pages has re-stated the objectives of the treaty, assessed the progress since the year 2000 and in the concluding-section "Conclusions and recommendations for follow-on actions", lists framing principles and objectives and four action plans requiring 64 specific actions on: nuclear disarmament; non-proliferation and safeguards; nuclear energy, safety and security; and the Middle East. The adopted document calls for a Conference in 2014 to discuss a timeline for abolition of nuclear weapons and a regional Conference in 2012 to pursue a Nuclear and WMD Free Zone in the Middle East. The Conference has unequivocally reaffirmed the undertakings of the NWS to accomplish a nuclear weapons free world. It has noted the UN General Secretary's proposal for a Nuclear Weapons Convention has urged the NWS to de-emphasize nuclear deterrence in their security policies, reduce the operational status of their nuclear weapons, restrain from modernizing nuclear forces, negotiate and finalize the FMCT and seal the CTBT. On nonproliferation front, the RevCon has called for making the IAEA additional Protocol mandatory and to universalize, harmonize, and strengthen the existing verification and export control mechanisms. It has categorically called the holdout states - India, Pakistan and Israel to accede to the treaty without further delay. The RevCon called for concerted international action, based on diplomacy, against any kind of non-compliance and has held responsible for their pre-withdrawal commitments even after cases of withdrawal from the Treaty. On the issue of peaceful nuclear uses, the RevCon reaffirmed it as the "fundamental" pillar of the treaty and sought to promote it while ensuring nuclear safety and security and supporting multilateral fuel cycles as a nonproliferation guarantee. Unfortunately, the RevCon has reinforced the 'right' to use peaceful nuclear energy, ignoring the inseparable proliferation concerns.

Although the final document falls short of declaring any timeline for nuclear disarmament, it nevertheless weaves concrete disarmament commitments into the nonproliferation approach of the NPT. As Rebecca Johnson has suggested, "it will no longer be possible for governments to dismiss calls for a comprehensive nuclear abolition treaty on grounds that this is either premature or would undermine the current non-proliferation regime, since the 2010 outcome has recommended it as a useful approach for fulfilling and strengthening the purposes of the NPT".[2] Creative diplomacy on part of Non-aligned nations and other developing countries such as Brazil, Ireland, New Zealand etc. focused on one hand to avoid supporting unilateral US moves against Iran in the Conference and on the other hand ensured denuclearization language for both Iran and Israel as the two will be part of the Middle East NWFZ. In this way, the Conference has sought to adopt more democratic, multilateral diplomatic solutions for the concerns of nonproliferation in case of the NWS and disarmament in case of NNWS that US and Iran respectively were trying to capitalize on for their own narrow strategic goals.

What actually this year's RevCon means?

Though a definite improvement over the 2005 fiasco, this years NPT Review Conference exhibited the vulnerabilities of the regime. The US wanted to push for a stricter regime by packaging such a move in terms of nuclear disarmament. However, its perceptibly diminished clout and reluctance of the NNWS to accept more obligations did not let this happen. On the other hand, the high expectations from the RevCon about some real gains for disarmament also did not fructify as for both the US and the discordant block, disarmament remained a just a tactical slogan to court their own interests. And soon after the RevCon, the new round of sanctions on Iran arrived. This implies that despite all the rhetoric, all the major stake-holders of the treaty will continue to stay away from any real change in the regime and the Treaty, as it will open a Pandora's Box with inconvenient truths for all of them. The change in the regime is happening outside the treaty - be it newer counterproliferation

measures or accepting India, and also recently Pakistan, as responsible players. That said, it is nevertheless a positive outcome that all the stakeholders have come to pursue their objectives in the language of global disarmament. That shows the growing constituency for nuclear abolition and a greater realization that only disarmament can be a solution of the proliferation and security puzzles. The real challenge now is to keep this constituency mobilized and vigilantly work for global and comprehensive disarmament both inside and outside the treaty.

The author is a research scholar with the JNU, Delhi and a close associate of the CNDP.

End Notes:

1. **Jayanta Dhanapala, "Unified Approach to N-Disarmament", http://www.deccanherald.com/content/51411/unified-approach-n-disarmament.html**
2. **Rebecca Johnson, 15 June 2010 "NPT: challenging the nuclear powers' fiefdom", http://www.opendemocracy.net/5050/rebecca-johnson/npt-challenge-to-nuclear-powers-fiefdom**

III. Peace camp and NPT: Post-RevCon Posers

J. Sri Raman#

Did New York host a historic event from May 3 to 28? Did the United Nations headquarters witness not merely intensive discussions of aninternational treaty but a turning point in the human quest fornuclear disarmament? What exactly was the outcome of the NuclearNon-Proliferation Treaty Review Conference (NPT RevCon)?

Expectations from the event were escalating for one year. This markedthe period since the famous Prague speech of President Barack Obama last year, promising a nuke-free world. The period also saw a growing campaign by the peace movement worldwide fora legally binding NuclearWeapons Convention (NWC) on the model of biological and chemical weapons conventions already in place. Has the hope been met?

The optimists as well as the pessimists cite the final consensusdocument adopted by the five nuclear-weapon states or the P5 and the remaining non-nuclear weapons states within the NPT. The former alsonote the decision to convene a conference in 2012 on the long-standing proposal to create a nuclear-weapons-free zone in theMiddle East.

Those who do not share this rosy view of the RevCon point to the utter inadequacy, to put it mildly, of the second decision purportedly aimed at addressing the nuclear weaponisation and ambitions of Israel. Washington, it is noted, was quick to backtrack from even any mutedsupport for such a step.And has acquiesced tacitly in Tel Aviv'sresponse manifested in the attack on the Gaza flotilla.

The more important criticism of the so-called consensus, however, has centred on the question of nuclear disarmament. The treaty is supposed to rest on "three pillars" -- disarmament, non-proliferation, and cooperation in "peaceful" use of nuclear energy. The anti-nuclear weapons movement has always held that disarmament has been deliberately kept the weakest and wobbliest of the pillars. The final document's mention of disarmament as a goal and even the proposal for the NWC does not cover the cracks in the pillar.

On the RevCon's eve, the point was made again. The International Commission on Nuclear Non-proliferation and Disarmament, a joint initiative of the Australian and Japanese governments, said: "So long as any state has nuclear weapons, others will want them." it added: "It is neither defensible nor sustainable for some states to argue that nuclear weapons are an indispensable, legitimate and open-ended guarantor of their own and allies' security, but that others have no right to acquire them to protect their own perceived security needs."

The NPT's apologists have continued to cite Article VI of the treaty that the signatories would "pursue negotiations in good faith at an early date on effective measures regarding cessation of the nuclear arms race and disarmament." The P5's treatment of the provision as a mere token, despite its interpretation as a serious commitment by the International Court of Justice, has only made the treaty appear

all the more toothless.

Pugwash President Jayantha Dhanapala, former UN under-secretary-general for disarmament affairs from the South Asian state of Sri Lanka, explained why. "An arbitrary distinction has been drawn between 'good' and 'bad' proliferators," he said. "A new dimension is the possible acquisition and use of nuclear weapons by terrorist groups, which, while being frighteningly real, is another form of proliferation that the NWS have seized upon to distract attention from their own nuclear weapons ....The fundamental issue is that nuclear weapons are inherently dangerous in anybody's hands."

In a mid-RevCon commentary, eminent activist Bob Rigg, wrote: "...the most glaring deficiency of the NPT lies in the hierarchy at the heart of the NPT regime since it entered into force in 1970. The treaty distinguishes between the privileged nobility of the nuclear weapons states and the lumpen proletariat of the non-nuclear weapons states."

Talking of an issue under discussion, Rigg said: "While the nuclear weapons states coyly conceal their nuclear parts beneath the fig leaf of the NPT, they are now applying pressure on wavering non-nuclear weapons states to sign an Additional Protocol authorizing even more intrusive inspections."

He concluded: "If the NPT fails to become a level playing field enjoying the respect of all states, it will continue to fall prey to its own discriminatory and contradictory character, with all the consequences of that." The final document is proof that the warning has gone unheeded.

In a post RevCon review, the New york-based Lawyers Committee on Nuclear Policy, which has played a leading part in the campaign to make the NPT meaningful, described the "consensus" as " a final document without finality". The RevCon, it said, ended "with more of a whimper than a bang". It added: "Encouraged by the vision of a nuclear weapons free world which President Obama projected in... Prague..., many countries and virtually all of civil society had urged that the conference call for the start of negotiations toward the enactment of a convention banning nuclear weapons...But it was not to be."

The committee said: "....the final document reflects the seemingly disproved theory that pursuit of steps like further US-Russian reductions, entry into force of the test ban treaty, etc., will lead to a world free of nuclear weapons. The four states essentially rejected calls for setting a timeline for progress."

The committee's conclusion: "All in all, the result was disappoi nting without being surprising. But the voices of civil society and of a growing number of countries were heard louder than ever, demanding that this sword of Damocles, as President Kennedy called it, be lifted from the world. These voices will not be stilled." These lines carried a sentiment widely shared in the peace movement.

For what the movement is up against, however, we may recall comments by Christopher A. Ford, the US NPT representative at the end of theGeoge W. Bush Administration. He scoffed at the "theory that the NPT is structurally made up of 'three pillars'..." He added: "Let us not mince words ...As a matter of historical fact, the administration's theory is nonsense. Neither in the original vision of the treaty as it was articulated at the time by those involved in drafting it, nor in the NPT's text itself, was stopping the spread of nuclear weapons ever merely one element that needed to be balanced against other equally important elements...Nonproliferation was...unquestionably seen as the animating purpose and overriding goal of the NPT...."

Ford's fulminations show that the P5's acceptance of the disarmament goal is a fuzzy prospect, despite the wording on the final document. The world's peace warriors have a fight on hand.

South Asia's peace movement cannot but join the struggle, all the more so because of its own special experience with NPT. The region accounts for two of the three NPT holdouts: India and Pakistan (the third being Israel, while North Korea, an erstwhile signatory, has walked out of the treaty). The two nuclear-armed neighbors have been one in opposing the "discriminatory" NPT dispensation for decades. The nuclear hawks of both countries, however, have found their most trustworthy, if also indirect, allies in the architects and upholders of the treaty, which gives something like a divine right for five

nuclear-armed powers to preserve their arsenals while denying it to the rest of the world.

The treaty has placed a powerful weapon in the hands of our own nuclear militarists. It is time for us all to take up in right earnest a campaign for its replacement with a non-discriminatory alternative, without of course relaxing the movement for regional rollback of nuclear-weapon programmes.

The author is a veteran Chennai-based journalist and writer. A member of the CNDP National Coordination Committee (NCC).

IV. A Slightly Heretical Report on the NPT Review Conference

NY, 3-28 MAY 2010

John Hallam#

I attended the 2010 Review Conference of the Nuclear Non-Proliferation Treaty for the second week (May 9-16) of the four-week review, having attended the 2008 Preparatory Committee, in Geneva, and the 2009 Preparatory Committee meeting in New York (which I attended as an NGO adviser to the Australian Government diplomatic team together with Prof. Tilman Ruff of ICAN). For the first and last two weeks of the conference I have therefore relied on the irreplaceable work done by Reaching Critical Will and Rebecca Johnson's Acronym blog. I am not sure, but I believe I may be the only person to have actually read nearly all the statements posted on RCW (over the years since 2000) that are in either English or French.

A major reason for my attendance at the 2010 Review Conference was of course to organise a panel and to present a paper on the apocalyptic issue of operating status of nuclear weapons systems. (Operational Readiness) That panel took place as scheduled on 13 May, and was addressed by Ambassador Dell Higgie of New Zealand, (on the resolution on operational readiness sponsored by the six governments) Dr Christian Schoenberger of the Swiss Foreign Ministry, (on the Yverdon Les Bains workshop and on their study on de-legitimising nuclear weapons) Nancy Gallagher of the University of Maryland,(on JDEC and Strategic Stability), Commander Rob Green on failure of Deterrence, by Steven Starr on the climatic consequences of large-scale nuclear weapons use, and by myself on Operating Status in the ICNND report and the US Nuclear Posture Review. Attendance was rather over 20 people with vigorous discussion that went on for the full three hours. There was a lively and productive exchange with the French ambassador M. Danon, who undertook to facilitate some exchange of ideas between French missile forces (who say they have already lowered the operational readiness of their nuclear forces) and US missile forces (who are opposing pressures to lower the operating status of US forces.). I was later approached by the French Military Attache, who was exceedingly friendly and said he would follow up on that matter.

My role at the 2010 Review Conference was apart from organising the Operating Status panel and presenting at it, to raise the issue of operational readiness of nuclear weapons systems in as many fora as I could, and I succeeded to do so in the discussion of the New START treaty by the US and Russian negotiators of that treaty, and in the PIR Centre presentation of the Moscow point of view amongst other places.

I would very much like to pay tribute to the Swiss, NZ, Chilean, Malaysian and Nigerian diplomats for their staunch efforts to keep operational readiness/operating status in the final declaration of the Review Conference in the face of strong efforts by some NWS (Nuclear Weapon States) to remove it. Hopefully by paying attention to this issue, and by doing what is necessary – ie removing US and Russian mis-

sile from high alert - we can, literally, 'take the apocalypse off the agenda'.

Where Are We with the NPT Review Process?

More widely, just where are we with the NPT review process? Would the NPT really start to crumble if the outcome of the 2010 NPT Review Conference had not been possible to spin as 'successful'? And just what do we mean by 'successful' anyway? Does the NPT review process even matter at all? Does the nominally 'successful' outcome of the 2010 NPT Review Conference actually bring the world at all closer to ridding the world of nuclear weapons, closer to a nuclear weapons convention, or even closer to 'taking the apocalypse off the agenda' by lowering the alert status of the several thousand US and Russian ICBMs that are retained on high alert, able to be launched in under 2 minutes?

I note that Deepti Choubey in an article written for the Carnegie Foundation, suggested that we should not 'overload' the 2010 NPT Review Conference with expectations, and should expect just a modest success.

The Australian government adopted an approach so modest that it almost disappeared up itself, suggesting in its joint working paper with Japan (NPT/CONF.2010/WP.9) that success would consist of:

"1. Reaffirm an unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under article VI of the Treaty.

2. Welcome the nuclear disarmament steps taken by France, the Russian Federation, the United Kingdom of Great Britain and Northern Ireland and the United States of America, including the progress of negotiations for the START follow-on treaty between the United States and the Russian Federation, and call on all States possessing nuclear weapons to pursue negotiations on nuclear disarmament bilaterally and/or multilaterally.

3. Call on all States possessing nuclear weapons to make an early commitment to reducing, or at least not increasing, their nuclear arsenals, pending the conclusion of such negotiations, in a way that promotes international stability, and based on the principle of undiminished security for all.

4. Call on the nuclear-weapon States and on all other States possessing nuclear weapons to commit themselves to reducing the role of nuclear weapons in their national security strategies, and call on the nuclear-weapon States to take, as soon as possible, such measures as providing stronger negative security assurances that they will not use nuclear weapons against non-nuclear-weapon States that comply with the Non-Proliferation Treaty.

5. **Call on all States possessing nuclear weapons to take measures to reduce the risk of their accidental or unauthorised launch and to further reduce the operational status of nuclear weapon systems in ways that promote international stabilityand security.** (Emphasis mine.)

6. Emphasise the importance of applying the principles of irreversibility and verifiability to the process of reducing nuclear weapons.

7. Call for increased transparency by all States possessing nuclear weapons with regard to their nuclear weapons capabilities, including by reporting regularly such information as the numbers of nuclear weapons and their delivery systems, and on their deployment status in a format to be agreed among States parties to the Treaty.

8. Urge all States that have not yet done so to sign and ratify the Comprehensive Nuclear-Test-Ban Treaty at the earliest opportunity with a view to its early entry into force, and emphasise the importance of maintaining the moratorium on nuclear weapons testing pending the entry into force of the Comprehensive Nuclear-Test-Ban Treaty.

9. Call for the immediate commencement and early conclusion of negotiations on a fissile material cut-off treaty, while urging all States possessing nuclear weapons to declare and maintain a moratorium on the produc-

tion of fissile material for weapons purposes, to declare voluntarily fissile material that is no longer required for military purposes and to place such material under International Atomic Energy Agency safeguards or other relevant international verification.

10. Reaffirm the threat posed to international peace and security by the proliferation of nuclear weapons and the need for strict compliance by all States with their non-proliferation obligations, including compliance with their IAEA safeguards agreements and relevant Security Council resolutions.

11. Emphasise that a Comprehensive Safeguards Agreement accompanied by an Additional Protocol based on the model additional protocol should be the internationally recognised safeguards standard, urge all States that have yet to do so to conclude and bring into force a Comprehensive Safeguards Agreement and an additional protocol as soon as possible and call on all States to apply this safeguards standard to the supply of nuclear material and equipment.

12. Underline the importance of appropriate international responses to notice of withdrawal from the Treaty, including consultations on a bilateral, regional or international basis. In particular, in the case of notice of withdrawal by a State which has been found by IAEA to be in non-compliance with its safeguards obligations, the Security Council should convene immediately in accordance with the body's role under the Charter of the United Nations.

13. Emphasise that a State withdrawing from the Non-Proliferation Treaty is not free to use for non-peaceful purposes nuclear materials or equipment acquired while party to the Treaty, as well as special nuclear material produced through the use of such material or equipment.

14. Reaffirm the right of all States parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with articles I, II and III of the Treaty, and support the work of IAEA in assisting States, particularly developing countries, in the peaceful use of nuclear energy.

15. Urge all States commissioning, constructing or planning nuclear power reactors to become parties to the four international conventions relating to nuclear safety, namely, the Convention on Nuclear Safety, the Convention on Early Notification of a Nuclear Accident, the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, and the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management.

16. Urge all States to take further measures to strengthen the security of nuclear materials and facilities, such as conclusion of the Convention on the Physical Protection of Nuclear Material including its 2005 Amendment and the International Convention for the Suppression of Acts of Nuclear Terrorism as soon as practicable."

An agenda so modest (and so close to that of the Nuclear Weapons States) would be unlikely to be disappointed, and indeed, the Australian Government professes itself to be completely satisfied with the RevCon outcome. However it must be said that the Australian agenda was actually MORE modest than the final outcome of the conference(!!!), lacking as the Australian agenda does, all reference to a nuclear weapons convention, in spite of the fact that the outcome document references a NWS twice, and the many references to the need for a NWC,made by governments as well as the NGO community at the conference itself. (ICAN has done a detailed list of the many references to a NWC at the conference).

(One must note however the relatively good language on operational readiness, as well as its caveat ('in ways that promote international stability and security' – isn't the promotion of international stability and security precisely what the exercise is about?). With the ICNND treating that topic at great length,(and the resolution arising from lobbying based in Sydney!) this is the least the Australian government could do.)

Positive references to a nuclear weapons convention or to an equivalent legal framework were made by an astonishing number of countries and bodies throughout the conference, notably by Ban Ki Moon, the Inter-Parliamentary Union, the NAM, the League of Arab States, Austria, Switzerland, Chile, Brazil, China, Thailand, the Holy See, Senegal, Egypt, Costa Rica, Malaysia, Qatar, Kenya, Mongolia, Liechtenstein and Tunisia.

The Australian Government's attitude to a Nuclear Weapons Convention (NWC) in spite of having at one time pledged to 'drive the debate' on one, is:

> '...the Government recognises that at an appropriate time (one can almost hear Sir Humphrey say 'in the fullness of time') the international community may need to explore possible legal frameworks for the eventual abolition of nuclear weapons'. (Note: explore, frameworks...eventual.)

(Personal communication from DFAT).

> Alas! The Australian government is not only NOT driving the debate on a NWC, but is now far behind the rest of the world on this vital issue. Our underwhelming agenda for the 2010 NPT Review Conference was unlikely to have been disappointed, absent a complete failure.

I had extensive and positive interactions with the representatives of Chile, NZ, Switzerland, Nigeria, and France, but none with Australia in spite of havebeen 'on the team' the previous year. This is sad.

Others had more ambitious agendas for the Review Conference - agendas that bore, obviously, a much higher risk of not being achieved and thus of being seen as a 'failure'. Deepti Choubey argues that there has been a 'maximalist' and a 'minimalist' view.

She quotes a Norwegian diplomat as summing up the two views as follows:

> "the minimalist view [of sucess] is anything short of failure that also recognises previous commitments. The maximalist view is an extensive and detailed framework for the total elimination of nuclear weapons."

According to an Indonesian diplomat's version of 'failure':

> "failure is not having the minimum reaffirmed and there are no forward-looking steps."

While according to New Zealand:

> "Failure is anything that leaves the NPT in worse shape"

Would 'failure' have mattered?

I have argued that in fact a nominal 'failure' (ie failure to produce an agreed final statement either by consensus or if need be by a vote), might be less bad than an agreed final document that actually was a move backwards from previous final documents. I certainly do not think this was the case with the final document this time round, however underwhelming we might deem it to be. Choubey argues against making the Review Conference 'make or break' for the NPT and I think this is indeed the correct instinct.

However, many governments felt that 'failure', or an outcome that might be perceived as a failure, was likely to inflict intolerable damage on the NPT.

According to a South African diplomat:

> “If nothing is achieved, people will disrespect the NPT. There would be no reason to uphold obligations and the regime would no longer exist”.

While according to a Chinese official:

> "We cannot afford to let one more review conference be a failure".

However there were some more nuanced views. According to a Russian expert quoted by Choubey:

> "2010 should not be viewed as a catastrophe if it doesn't achieve the maximum results. It should be seen as a window of opportunity."

Funnily enough the Poles who mostly disagree with Russia about everything seemed to feel

the same. Choubey, as noted, stresses that making the RevCon 'make or break' would have been a self-fulfilling prophecy.

Nonetheless, when, on 27 May, it seemed at least possible that failure MIGHT be on the horizon, some governments and individuals strove mightily to prevent that, including both Ban Ki Moon who wrote a letter urging agreement to all delegates, and our own (Australian) government who teamed up with Japan, Austria, New Zealand, Germany, and South Korea, to urge a positive and productive outcome in a letter from foreign ministers to all delegates.

The letter is worth quoting in full, both for what it says about the consequences of 'failure' and for what hopes it expresses for the conference::(bolding is mine)

Quote Ministers' urgent call for unity of the State Parties in the 2010 NPT Review Conference in support of the vision of a world without nuclear weapons

27 May 2010

We, Foreign Ministers of Australia, Austria, Germany, Japan,South Korea and Minister for Disarmament and Arms Control of New Zealand reaffirm our shared commitment to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) as the cornerstone of the international non-proliferation regime and the essential foundation for the pursuit of nuclear disarmament. In this spirit, we strongly endorse the views expressed by UN Secretary-General Ban Ki-moon in his message of May 26 to the President of the 2010 NPT Review Conference.

We emphasize that the Conference offers us the opportunity to respond effectively to the mounting challenges to the global non-proliferation regime and to reaffirm the authority of the Treaty. Following the setbacks in recent years, we reiterate the significance of achieving balanced outcomes at the Conference that will strengthen each of the mutually reinforcing three pillars of the Treaty and of agreeing by consensus on a forward-looking package of concrete steps.

However, after weeks of intense discussions, there still remain divergences in opinions over the draft final document. All of us must play our respective part. Nuclear Weapon States and Non-Nuclear Weapon States have their own obligations and responsibilities under the Treaty. We must overcome the difference and gather our political will for convergence of views. The world cannot afford a repetition of the failure we saw in 2005.

We call on all State Parties to the Treaty with the greatest sense of urgency to show maximum flexibility and spirit of cooperation. The Conference must send a strong political signal to reinforce momentum towards a world without nuclear weapons. Let us work hard in the remaining days ahead to ensure that we seize this opportunity to provide a safer and more peaceful world without nuclear weapons for all citizens and for future generations."

- Stephen Smith, Minister for Foreign Affairs, Australia
- Michael Spindelegger, Minister for European and International Affairs, Austria
- Guido Westerwelle, Federal Minister for Foreign Affairs, Germany
- Katsuya Okada, Minister for Foreign Affairs, Japan
- Georgina te Heuheu, Minister for Disarmament and Arms Control, New Zealand
- Yu Myung-hwan, Minister of Foreign Affairs and Trade, Republic of Korea Unquote

(Letter from foreign ministers of Australia, Japan, South Korea, Austria, New Zealand and Germany to 2010 NPT Review Conference 27 May 2010)

Expectations just before the final outcome - certainly mine - were indeed low, with reports that the nuclear weapons states were 'gutting' the modestly progressive measures that had been included in early versions of the main committee reports (esp Main Committee-1) and the report of Subsidiary Body-1.

Much that we had hoped would be in there including references to operational readiness and all references to the NWC itself, as well as an invitation to the UNSG Ban Ki moon to chair a conference on nuclear disarmament seemed likely to disappear completely. In fact, what took

place was that most timelines and benchmarks disappeared, language became 'aspirational', but key progressive elements notably the section on op status (watered down to be sure, but referred to twice), the nuclear weapons convention (relegated to an 'inter alia' on the five - point plan but referenced twice), and the statement on humanitarian impacts of nuclear weapons (key to delegitimising them) remained after a significant struggle and were ultimately gavelled through.

NPT Review Conference Decision-making Process

Let's take a look at how the customary NPT review process actually does work (when it works), noting that there is nothing in the text of the NPT that says it HAS to work this way.

Decisions at NPT Review conferences are traditionally taken by 'consensus', meaning in practice that unanimity will be required. This means that in order for a final declaration to be adopted, it must be agreed to - or at least not blocked - by all present, not a mere majority. This means that both in theory and all too often in practice, agreement on a final statement can be blocked by a single government out of the treaty's 189 signatories - whether from the US, the UK, Iran, or Egypt (to mention some that have in the past blocked or looked likely to block, adoption of a final declaration).

However, this also means that even a final declaration that cannot be adopted because a single government blocks it may actually have the support of the overwhelming majority of the governments of the world!

And in theory at least it is also possible for decisions to be taken another way. Ambassador Labbe of Chile in a conversation at lunch said to me: "...well if it comes to that, John, we can just take it to a vote". (That's how I recall our lunchtime conversations.)

I have on a previous occasion (2009 Prepom) suggested to some receptive ears that it might indeed be possible to do something precisely like this. At least, a rule could be adopted that more than one, and more than two, governments are needed to block consensus for the other 188 governments.

And if we look at the suggestions made on behalf of Pugwash by Jayantha Dhanapala, we see that on occasion, decisions have indeed been made in another way. Dhanapala notes occasions where the formula 'a majority thinks that....' was used, and indeed, those words do appear once or twice in the final declaration, in the section which is said to be 'the chairman's recollection' of what took place (and thus not subject to a vote).

The Year 2005 Review Conference foundered on blocking by two countries - the US and Iran (and primarily the US, which in effect wanted to disavow the commitments it had made in the Year 2000 Review Conference, specifically the unequivocal commitment to eliminate its nuclear arsenal).

This makes the simple re-commitment to the unequivocal commitment to eliminate nuclear arsenals of such immense importance in 2010. It is often forgotten that the Year 2000 Review Conference, from whence this commitment springs, hailed in retrospect as progressive and successful, also nearly failed. The clocks were stopped for 24 hours as solutions were sought for differences between the US, Iran, and Egypt, and only this allowed the 13 points to be adopted.

Even at the Year 2005 Review Conference, where differences were so much more severe, a study of ALL the statements made by all 189 governments does NOT reveal wide and unbridgeable differences amongst the overwhelming majority of governments, but on the contrary, an amazing degree of consensus and even unanimity amongst 80-90% of participants, broken only by the special pleading (or simply special silences) from nuclear weapon states and some but not all NATO members.

A system of voting, or of 'modified consensus' that could be blocked only by, say, at least ten governments, or a super-majority system requiring say a 75% majority to adopt a statement, would allow 'blockers' (far more likely to be the nuclear weapon states than anyone else - and not all of them either) - to be 'rolled' by the rest of the planet. This would both allow us to see clearly who really is blocking consensus (instead of simply assuming it is always Iran), and allow them to be isolated and pressured as indeed they should

be - especially if they are a large and powerful states used to pressuring everyone else. Voting patterns would likely follow those of the UNGA First Committee, in which overwhelming majorities continue to express their desire not to be toast, and would not result in 'lowest common denominator' results so critiqued by all sides of the disarmament 'debate'.(or pseudo-debate)

We now know that according to one criteria, the unopposed adoption of a final declaration, the 2010 Review Conference was a 'success'. This was not to have been taken for granted and it all too easily might not have been one. Hearts were in mouths for the last 24 hours, as Iran sought instructions from its capital and decided not to oppose, and before that as the US decided whether or not to support the final declaration, over what it said about the Middle-East. It was gavelled through by Chairman Libran Cabactulan at 11am on the last day amidst stunned silence followed by applause. Iran then gave a measured and positively moderate speech in which they talked about goodwill, and a speech by Ellen Tauscher in which the successful adoption of a final document was welcomed, in which the 'singling out' of Israel was regretted, and Obama's Prague Speech was referenced.

There were welcoming speeches by a large number of others, but their texts are not available at the RCW site.

One could reasonably ask, however, if the blocking of a final documents by a single government or by two governments with the quasi-unanimous support of the rest of the world should really constitute 'failure'? And would that be worse, than the unanimous adoption of a document that actually went backwards from previous commitments? I suggest that the adoption of a document that went backward would in fact be the worse alternative.

Many commentators have been highly critical of the adequacy of the document that was finally adopted. Those who criticise it most strongly from the disarmament side should perhaps, see what is being said about it from the side of the neocons. One gains a slightly different perspective by seeing how it is regarded (very unfavourably) by the Heritage Foundation and by Dr Chris Ford, former Bush administration disarmament ambassador, who both damn it as somehow hazardous to US security interests and who excoriate its mention of a nuclear weapons convention. Both also critique its 'unbalanced' 'overemphasis' on disarmament as against nonproliferation. One could make the perverse case that if the right finds so much wrong with it there must be something right with it!

Certainly I would urge Ford to read the ICAN critiques and ICAN to read the Ford critiques. Both might gain a sense of perspective.

Ford argues that 'disarmament posturing' has not gotten the Obama administration enough on the nonproliferation front:

"it is hard to maintain that the 2010 document represents any significant movement forward on nonproliferation - especially by comparison to its fulsome endorsement of the conventional wisdom of the diplomatic community on matters of disarmament. In some respects, in fact, last week's document actually seems retrogressive on nonproliferation compared to what was agreed in 2000, and seeming especially weak in light of the fact that the intervening decade has seen the emergence of dramatic new proliferation challenges in North Korea and Iran. We appear, in other words, to have gotten very little, if anything, in return for all of our disarmament positioning. Let's take a look." (Chris Ford, New Paradigms forum, Final Declaration of the 2010 NPT Review Conference).

Note the phrase 'all our disarmament posturing', as if there had really been some disarmament 'posturing'! Ford characterises the treatment of disarmament in the final declaration as 'forward leaning' and its stance on nonproliferation as 'reticent'. Ford was surprised to hear that from the disarmament side the Final Declaration contained not nearly enough on disarmament, and was anything but reticent on nonproliferation!

Certainly the final declaration does not, as many of us would have hoped it would, spell out a fast track to global zero (though it does make it clear, to Heritage's disgust, that this is where we are going), nor does it spell

out an unequivocal commitment to a nuclear weapons convention (though it references one twice), or to Ban Ki Moon's five - point plan though that is also referenced.

But such unobservant people as myself who may at times miss the subtler nuances, might conclude that it does indeed support in some less definite way, both a nuclear weapons convention and the five-point plan. If an unsubtle observer such as myself can conclude that after five or six readings of the final declaration, it does indeed give the strong impression that it looks kindly on a nuclear weapons convention and the five point plan, what are we to assume of foreign ministers who may not have time to read it at all, or advisers who skim it?

To be sure, many of the action points of the original action plan emanating from subsidiary body-1 and from MC-1 have been in various ways toned down, made 'aspirational' or in some cased deleted or gutted. Often points for concrete action are changed to 'discuss'. Sentences that ask for action to be taken are even rewritten to make it seem at first glance as if the action has already been taken and is being welcomed.

For example, with respect to operational readiness of nuclear weapon systems:

--A sentence appears with 'discuss' the legitimate interest of non-nuclear-weapon states in lowering the operational readiness of nuclear weapon systems. (See actual wording below.)

--There is a para in which the conference 'acknowledges' the positive effects of de-targeting (done but meaningless - re-targeting takes minutes or seconds) and lowering operational readiness (not yet done but called for). (See actual wording below.)

Note however that this is in the context of some nuclear weapon states having called for the deletion altogether of the language on operational readiness, and strong resistance to that from the governments that sponsor the resolution on that issue as well as others. (Russia asked obliquely for it to be deleted in spite of having voted for precisely this form of words in the Renewed Determination Resolution last October.)

And even on the quite contested issue of operational readiness, the action plan contains a list of measures that, taken together and actually implemented, would, really and truly, significantly lower the risk of planet-wide catastrophe out of blind computer error and panic, literally 'taking the apocalypse off the agenda'. Operational readiness/Op status is up there as it were 'in the mix' if not in quite the terms in which we might have liked it to be, but it is there in terms that above all, we can USE.

I am forced to say that while watering-down certainly took place, it could be easily overlooked even after multiple readings and maybe at times even contestable. I do wonder if amidst the baying that the 'emperor has no clothes', I am simply deluded in seeing on him a pair of daggy jeans and a disreputable shirt, that look as if a nuclear weapons state has tried to tear them off.

Finally the final declaration contains some awfully important pluses.

It does contain a reaffirmation, in significantly clearer terms than those of the Year 2000 declaration, of the commitment to a nuclear - weapons - free world. It may not be exactly a fast track to zero (and clearly a fast track to zero is what the world sorely needs - see my press-release on the final day of the conference) - and it doesn't have benchmarks and timeline, but the simple reaffirmation that zero nukes is where we are meant to go is not to be underestimated. It was precisely this point as previously pointed out, over which the US spat the dummy in 2005, and as noted the neocons are spitting over that reaffirmation right now. Well may they spit!

2010 Final Declaration and 2000 Final Declaration Compared

Let's look at the Year 2000 Review Conference and the 2010 Review Conference wording on the above reaffirmation, and some related matters.

The Year 2000 NPT final declaration's disarmament wording is:

"6. An unequivocal undertaking by the nuclear weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under article VI."

The version in 2010 is not that radically different, and references the Year 2000 wording, but is to my mind a little more definite about nuclear disarmament and the irreversibility of the process:

"79. The Conference notes the reaffirmation by the nuclear-weapon States of their unequivocal undertaking to accomplish, in accordance with the principle of irreversibility, the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under article VI of the Treaty."

In the action plan it is much crisper, and there is no 'notes':

"The Conference reaffirms the unequivocal undertaking of the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under article VI."

The new element not present in the Year 2000 final declaration is:

'in accordance with the principle of irreversibility'.

Let's look at the expression of concern over weapons numbers and humanitarian consequences:

Here is how it is in the 2010 final declaration:

> "80. The Conference, while wel coming achievements in bilateral and unilateral reductions by some nuclear-weapon States, notes with concern that the total estimated number of nuclear weapons deployed and stockpiled still amounts to several thousands. The Conference expresses its deep concern at the continued risk for humanity represented by the possibility that these weapons could be used and the catastrophic humanitarian consequences that would result from the use of nuclear weapons."

The Year 2000 wording is very similar except for the addition of the phrase ',and the catastrophic humanitarian consequences that would result from the use of nuclear weapons." (Thanks to John Burroughs for bringing this to my attention)

This means that the 2010 final dec's concern over humanitarian consequences must owe at least something direct to the year 2000 wording, while building on and advancing from that wording. Yet the venerable pedigree of this wording did not make it immune from UK attempts to remove it.

Let's look at operational readiness.

Here it is in 2010 in the first half of the final document:

> "90. The Conference recognizes that reductions in the operational status of nuclear weapons and announced measures related to de-targeting contribute to the process of nuclear disarmament through the enhancement of confidence-building measures and a diminishing role for nuclear weapons in security policies."

And the relevant sections in the Action Plan (where it is presented in the context of related measures):

"(c) To further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies;

(d) Discuss policies that could prevent the use of nuclear weapons and eventually lead to their elimination, lessen the danger of nuclear war and contribute to the non-proliferation and disarmament of nuclear weapons;

(e) Consider the legitimate interest of non-nuclear-weapon States in further reducing the operational status of nuclear weapons systems in ways that promote international stability and security;

(f) Reduce the risk of accidental use of nuclear weapons; and

(g) Further enhance transparency and increase mutual confidence.

In the year 2000 it is merely:

> " Concrete agreed measures to further reduce the operational status of nuclear weapons systems;" and is buried in a subsection of the 13 points.

However, 'discuss' and 'consider' have been substituted for

more action - oriented words.

And as we've seen notwithstanding all the watering down the final dec still references both the five point plan (containing a nuclear weapons convention) and references the NWC specifically.

Thus in the main report:

81. The Conference notes the new proposals and initiatives from Governments and civil society related to achieving a world free of nuclear weapons. The Conference notes the proposals for nuclear disarmament of the Secretary-General of the United Nations to inter alia consider negotiations on a nuclear weapons convention or agreement on a framework of separate mutually reinforcing instruments, backed by a strong system of verification" and in the action plan, nearly identical wording but an additional call for 'special efforts':

"iii. The Conference calls on all nuclear-weapon States to undertake concrete disarmament efforts and affirms that all States need to make special efforts to establish the necessary framework to achieve and maintain a world without nuclear weapons. The Conference notes the five-point proposal for nuclear disarmament of the Secretary-General of the United Nations, which proposes, inter alia, consideration of negotiations on a nuclear weapons convention or agreement on a framework of separate mutually reinforcing instruments, backed by a strong system of verification."

The final dec also contains a reference to the 'humanitarian consequences' of nuclear weapons use. We have seen that that the reference to humanitarian consequences in the main report is identical to that in the Year 2000 final dec.

The relevant para in the Action Plan reads:

"v. The Conference expresses its deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons and reaffirms the need for all States at all times to comply with applicable international law, including international humanitarian law."

The relevant part is I guess, the reaffirmation of the need for all states to comply with international humanitarian law.

Steven Starr and I remember days in which we had the utmost difficulty in getting the issue of the consequences of nuclear weapons use raised at all in UN fora. Yet this para is precisely all about consequences. It has its origin I believe, in an excellent address given by the International Committee of the Red Cross (ICRC) in the CD in the days leading up to the Review Conference, and in a Swiss Government/Monterey Institute document and workshop on de-legitimising nuclear weapons together with a detailed critique of deterrence. However it also strongly echoes what is in the main report which is as we've observed identical with year 2000 wording.

The language has yet again been 'toned down' from its original crispness from subsidiary body-1, and the UK government tried hard to get it deleted altogether but failed in the face of resistance. Every one of these 'watered down' paras in fact displays the marks of battles between NNWS and NWS, a battle that in the three days immediately before the issuance of the final dec, looked as if it could wreck the conference.

I pay homage to those diplomats who fought the good fight and kept important language in the final dec, notably the Swiss, the New Zealanders, others of the de-alerting group (not just on de-alerting), Austria, Germany, the NAM, and even on 27 May, Australia.

One thing that the final days of the conference reveals is the lack of real willingness on the part of the NWS - largely on the part of the US, UK, France, and Russia - to follow through with a concrete action plan with clear benchmarks, from their purported endorsements of a nuclear - weapons - free world. Zero nukes are seemingly fine as long as they are a faraway nirvana on a mountain - top, but God help you if you have a route - map to the top of the mountain.

Nonetheless a route - map (or several route - maps), exist, and the overwhelming majority of the words governments think we ought to be walking that route. The result of that tussle between those who want zero nukes as an ever-receding nirvana, and those who think it should have happened yesterday if not 30 years ago, is a final declaration that as Perkovitch suggests, represents not a big step, not any kind of leap, but a step of sorts nonetheless - an 'incremental step' as he

puts it.

Perkovich notes that: "You ended up with a final document that was a success in the sense that it moved things forward but it was weaker in both the disarmament and nonproliferation elements because there were a few states on both sides that wanted it weaker."

And: "Well, many of us before the conference thought that if it didn't end in a disaster, it could be a great success. It clearly didn't end in a disaster. But I don't want to call it a great success either; rather, I would call it an incremental success".

And: "The conference wasn't a disaster, in the sense that it reaffirmed the basic bargains of the NPT, including the understanding that nuclear weapons [states] are committed to giving them up eventually. So that was important. But even so, the final document was weaker in a number of areas than many countries had hoped. A number of countries, especially after President Obama's Prague speech, wanted more concrete commitments on nuclear disarmament"

And Deepti Choubey:

"Despite the conditions leading up to the Review Conference, states were willing and able to compromise on a complex agenda of issues and come to unanimous agreement. In an era where multilateral approaches have faced serious setbacks (e.g., the Copenhagen climate accords), states overcame seemingly endemic and expected dysfunction, particularly on issues as polarizing as nonproliferation and disarmament. The final document that was unanimously adopted on May 28 should be considered an incremental success. In addition to the final document, the president of the Review Conference, Ambassador Libran Cabactulan, submitted under his own auspices a separate document that includes a 122 paragraph review of the operation of the NPT. Going forward, states will have to determine how much political weight to be given to the conclusions in the President's statement"

(Perkovich and Choubey on Understanding the NPT Review Conference, Carnegie Inst.)

The final declaration is not a backward step, not a regression, but a modest (some will say a too modest) step in a vaguely positive direction. And as we see,even some of its wording is identical to Year 2000 Final Dec wording. As the Nigerian Ambassador said to me:

'It's half a loaf of bread. We'd prefer the full loaf but its not starvation'.(Personal comment.)

Choubey notes on disarmament that:

"In the disarmament section, for the first time, a world free of nuclear weapons is articulated as the goal of nuclear disarmament. Acknowledged nuclear weapon states also committed themselves to continuing to work together to accelerate concrete progress on disarmament. Efforts to include a timeline for a negotiated nuclear weapons convention failed, but the disarmament action plan does includes a timeline whereby the nuclear weapon states should report on their disarmament activities at the 2014 NPT Preparatory Committee meeting. They are also encouraged to develop a standard reporting form as a confidence building measure."

I would modify Choubey's characterisation slightly and say that for the first time a world free of nuclear weapons is clearly and unambiguously articulated as the goal for the first time. The year 2000 final declaration does so but with less clarity.

What might have been the alternative to what we got? For example, what if there had been a high-quality and detailed 'chairman's summary' with benchmarks and timelines (annotated to say they had majority support), with a clear commitment to a NWC, and a fast track to zero, and an unambiguous request to lower op status, together with majority language on the Middle-East WMDFZ question, the whole having overwhelming support but lacking that of the US and UK, France, and possibly Iran?

I ask that question because I really do not know the answer to it, and I am sceptical of anyone who says that they do.

Even modest steps are helpful on

the road to zero if they are actually taken. A fast track, a not-so-fast track or a 'slow' track all require actual travel along them. Unfortunately at some point, the nuclear weapons states (and the 'nuclear capable' states - India, Pakistan, Israel, and the DPRK) are the ones that have to travel along whatever track toward zero they may take. And it is the nuclear weapons states and the nuclear - capable states that at some point or points that must actually de-alert their nuclear arsenals, and progress to elimination.

The survival of the rest of us and of 95% of land based life - forms depends on it, and on nothing catastrophic taking place before they do it.

Australian media clearly believes that the sex - lives of footballers are far more important than 189 governments getting together in the UN to discuss matters that affect the survival of our species and most other species. But statement after statement at the UN declared what was truly at stake. These seemingly arcane meetings really do matter.

The author is a prominent international campaigner on nuclear disarmament from Sydney, Australia.

B. Global Issues

I. Obama's Nuclear Postures*

Zia Mian#

In his first official statement after the atomic bombing of Hiroshima, President Harry Truman claimed the new weapon as a fundamental breakthrough in military capability and a uniquely American achievement. The Hiroshima bomb, he said, was "more than two thousand times the blast power of…the largest bomb ever yet used in the history of warfare," drawing its enormous destructive force from "a harnessing of the basic power of the universe." With the bomb, Truman declared, "We have now added a new and revolutionary increase in destruction to supplement the growing power of our armed forces." It was made possible, he claimed, only because "the United States had available the large number of scientists of distinction in the many needed areas of knowledge. It had the tremendous industrial and financial resources necessary for the project.... It is doubtful if such another combination could be got together in the world."

It did not take long for Truman to be proven wrong. Nuclear weapon programs soon sprang up in other countries. The Soviet Union tested its first bomb in 1949, Britain in 1952 and France in 1960. When China carried out a nuclear explosion, in 1964, it showed nuclear weapons were an option for states lacking extensive scientific, industrial or financial resources. Weapons also increased quickly in destructive power as the atom bomb gave way to the hydrogen bomb. In 1954, the US tested a hydrogen bomb with a yield about a thousand times larger than the Hiroshima bomb. Seven years later the Soviet Union exploded a bomb that was almost four times larger still.

Threat Recognition

Truman's successors recognized the threats posed by the arms race and nuclear proliferation. In September 1961, speaking to the UN General Assembly, a very young and charismatic American president, John F. Kennedy, warned, "Every man, woman and child lives under a nuclear sword of Damocles, hanging by the slenderest of threads, capable of being cut at any moment by accident or miscalculation or by madness. The weapons of war must be abolished before they abolish us." Kennedy proposed that to end the nuclear danger, "disarmament negotiations resume promptly, and continue without interruption until an entire program for general and complete disarmament has not only been agreed but has actually been achieved." This program, he argued, should involve "a steady reduction in force, both nuclear and conventional, until it has abolished all armies and all weapons except those needed for internal order and a new United Nations Peace Force."

Instead of disarmament, Kennedy presided over the Cuban missile crisis and a marked increase in the US nuclear arsenal (from about 20,000 warheads in 1960 to almost 30,000 warheads in 1963). In parallel, there was a massive conventional military buildup and the start of the war in Vietnam. The nuclear arsenal was recognized at the time as being far larger than any conceivable military utility. In 1964 Secretary of Defense Robert McNamara proposed the arsenal be sized so as to achieve the "assured destruction" of the Soviet Union and argued that "the destruction of, say, 25 percent of its population (55 million people) and more than two thirds of industrial capacity would mean the destruction of the Soviet Union as a national society."[1]

McNamara estimated that it would require about 400 nuclear weapons of the kind the US then had in its arsenal to wreak this level of devastation. He pointed out that "the proportion of the total population destroyed would be increased by only about ten percentage points" if the US were to use 800 nuclear weapons. Despite McNamara's analysis, the number of US warheads peaked at just over 31,000, in 1967, a year before McNamara stepped down. In 2010, over 40 years since McNamara's assessment and 20 years after the Soviet Union collapsed, the US maintains a declared stockpile of 5,113 nuclear weapons, of which about 2,700 are operational warheads, with another 2,500 in reserve. There are a further 4,200 warheads in the queue to be dismantled.

Kennedy was also the first president to warn in stark terms of the danger of the spread of nuclear weapons. In an address to the nation in 1963, Kennedy described his fears:

During the next several years, in addition to the four current nuclear powers, a small but significant number of nations will have the intellectual, physical and financial resources to produce both nuclear weapons and the means of delivering them. In time, it is estimated, many other nations will have either this capacity or other ways of obtaining nuclear warheads, even as missiles can be commercially purchased today.

I ask you to stop and think for a moment what it would mean to have nuclear weapons in so many hands, in the hands of countries large and small, stable and unstable, responsible and irresponsible, scattered throughout the world. There would be no rest for anyone then, no stability, no real security, and no chance of effective disarmament. There would only be the increased chance of accidental war, and an increased necessity for the great powers to involve themselves in what otherwise would be local conflicts.

Classified US intelligence estimates at the time warned of countries that might follow down the nuclear road, including Israel, India and Pakistan -- the three that did so.[2]

Fearing the further spread of nuclear weapons, in 1968 the US and Soviet Union agreed on a nuclear Non-Proliferation Treaty (NPT) and presented it to the world. It came into force in 1970. The treaty obliged nuclear weapon state signatories (defined as those what had carried out a nuclear test before January 1967) to eliminate their weapons in exchange for non-weapon countries never building them. To ensure that nuclear energy programs in non-weapon states were not used covertly to make weapons, nuclear facilities were to be monitored by the International Atomic Energy Agency (IAEA). At the time, the US, Soviet Union, Britain, France, China and Israel all had nuclear weapons, but Israel had not carried out a test. Since then, four more countries have acquired nuclear weapons -- India, Pakistan, South Africa and North Korea. South Africa gave up its weapons and signed the NPT. North Korea signed the NPT, made nuclear weapons and left the treaty.

The NPT is 40 years old and there are many who see the treaty as being in grave crisis. The nuclear-armed states have not delivered on nuclear disarmament; there have as yet been no talks on how they would make good on this commitment. Some countries that signed the treaty as non-weapon states tried secretly to make nuclear weapons. There is growing concern about Iran's intentions. Many now also fear that, having spread from rich, industrialized states to poor, developing ones, nuclear weapons may be within reach of militant groups such as al-Qaeda. Even old Cold Warriors have started to talk of the need to abolish nuclear weapons.

In January 2007, former Secretaries of State Henry Kissinger

and George Shultz, ex-Secretary of Defense William Perry and Sam Nunn, the former chairman of the Senate Armed Services Committee, argued that nuclear weapons were perhaps the greatest threat to America today. Echoing Kennedy, they claimed that "unless urgent new actions are taken, the US soon will be compelled to enter a new nuclear era that will be more precarious, psychologically disorienting, and economically even more costly than was [the] Cold War."[3] They urged the US to embrace the goal of a world free of nuclear weapons. Their vision was endorsed in 2008 by a host of former US secretaries of state and defense and other former senior officials, both Republican and Democrat, including Madeleine Albright, James Baker, Zbigniew Brzezinski, Warren Christopher, Colin Powell and Robert McNamara.

This realization has been a long time coming. In the shadow of the US atomic bombing of Hiroshima and Nagasaki, the UN in its very first resolution called for plans "for the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction." For over 60 years civil society groups around the world have struggled to abolish nuclear weapons in what was perhaps the first truly global social movement. The hibakusha, the survivors of the atomic bombings of Hiroshima and Nagasaki, have borne witness to the horrors of nuclear weapons. Scientists and physicians have warned of the dangers of arms races and nuclear war. Artists, writers, filmmakers and poets gave expression to collective fears and hopes. Countless citizens petitioned leaders, marched and protested. The story of this movement is being recovered by the historian Lawrence Wittner.

Public support for nuclear abolition is evident in polls showing overwhelming majorities even in the nuclear weapon states in favor of a verified agreement to eliminate nuclear weapons. A poll carried out in 21 countries by the Global Zero campaign covering all the countries with nuclear weapons, except for North Korea, found that, on average, across all these countries, three out of four people support an international agreement for eliminating all nuclear weapons according to a timetable.

The 2010 Nuclear Posture Review

The election of President Barack Obama raised hopes that the long sought-after goal of abolishing nuclear weapons might finally become a US aim. In April 2009 in Prague, in what has become an iconic speech, Obama said: "As the only nuclear power to have used a nuclear weapon, the United States has a moral responsibility to act…. So today, I state clearly and with conviction America's commitment to seek the peace and security of a world without nuclear weapons." The reason Obama gave, echoing Kennedy 50 years earlier, was that the nuclear danger was increasing uncontrollably:

Today, the Cold War has disappeared but thousands of those weapons have not. In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up. More nations have acquired these weapons. Testing has continued. Black market trade in nuclear secrets and nuclear materials abound. The technology to build a bomb has spread. Terrorists are determined to buy, build or steal one. Our efforts to contain these dangers are centered on a global non-proliferation regime, but as more people and nations break the rules, we could reach the point where the center cannot hold.

Six months later, Obama was awarded the Nobel Peace Prize. The Prize Committee said that in making the award it "attached special importance to Obama's vision of and work for a world without nuclear weapons."

The first evidence for how the Obama Administration plans to address the goal of nuclear disarmament came in April 2010, with the publication of the Nuclear Posture Review Report. The report is required by Congress and is meant to establish US nuclear policy, strategy and capabilities. The Obama review was the third such exercise: The first occurred under President Bill Clinton in 1994 and the second under President George W. Bush in 2002. Only Obama's was published in full; the earlier reports were summarized and excerpted. A comparison of the Obama report with the excerpts from the one prepared by the Bush administration reveals fundamental continuity in US nuclear policy rather than the kind of sweeping changes that would be required to move toward eliminating nuclear weapons.

Nuclear Weapons and Strategic Stability

In 2002, the Bush Posture Review Report read, "Nuclear weapons play a critical role in the defense capabilities of the United States, its allies and friends." But the review recognized that nuclear weapons are of limited utility, arguing, "US nuclear forces, alone, are unsuited to most of the contingencies for which the United States prepares."

The 2010 Obama review echoes this judgment, observing that nuclear forces "play an essential role in deterring potential adversaries and reassuring allies and partners around the world," but admitting that warheads are "poorly suited to address the challenges the US now faces." While "allies" are mentioned in both the Bush and Obama formulations, presumably in reference to members of the NATO alliance, Japan, South Korea, Australia and New Zealand, it is harder to guess which countries were described in 2002 as "friends" and in 2010 were relabeled as "partners."

This deliberate ambiguity allows the US great freedom to pick and choose when and where it will unfurl its nuclear umbrella. Secretary of State Hillary Clinton has suggested, for example, that if Iran proceeds to acquire nuclear weapon capabilities, the US may use nuclear weapons to defend its "partners" in the Gulf.

The Bush Posture Review proposed that US nuclear weapons should be seen as an integral part of a larger set of established and emerging strategic capabilities that are "required for the diverse set of potential adversaries and unexpected threats the United States may confront in the coming decades." It proposed developing new conventional weapons able to attack a target anywhere in the world, deploying ballistic missile defenses, maintaining the triad of nuclear delivery systems (submarine-launched missiles, land-based missiles and bombers), extending the lifetime of existing nuclear warheads and modernizing the nuclear weapons research and development complex. The Obama Posture Review accepted this way of looking at nuclear weapons and adopted all of these policy goals.

The Obama review committed in particular to what has come to be known as Prompt Global Strike, which refers to the use of conventional warheads on intercontinental ballistic missiles able to reach any location in the world in less than 30 minutes. The review claims this capability is "particularly valuable for the defeat of time-urgent regional threats." According to Gen. Kevin Chilton, head of US Strategic Command, he can now only present "some conventional options to the president to strike a target anywhere on the globe that range from 96 hours, to several hours maybe, four, five, six hours."[4] Secretary of Defense Robert Gates, who served Obama's predecessor, has observed that Prompt Global Strike "really hadn't gone anywhere in the Bush administration," but was being "embraced by the new administration."

Missile defense, another of Bush's favorites, is featured prominently in the Nuclear Posture Review Report from 2010. In 2002, it was argued that "the mission for missile defense is to protect all 50 states, our deployed forces, and our friends and allies against ballistic missile attacks." In the 2010 report, the goal is to "respond to regional threats by deploying effective missile defenses, including in Europe, Northeast Asia, the Middle East and Southwest Asia."

While claiming that Prompt Global Strike and missile defenses are intended for "regional threats," the 2010 report recognizes that Russia and China "are claiming US missile defense and conventionally armed missile programs are destabilizing." In short, Russia and China see Prompt Global Strike and missile defense capabilities as threatening the strategic balance these countries feel they currently have with the US. Rather than abandon these weapon systems, the posture review proposes high-level, bilateral dialogues on "strategic stability" with Russia and China.

A goal of maintaining strategic stability with Russia and China would suggest that the US has recognized a mutual deterrence relationship with both countries, even though they have very different nuclear arsenals. Russia (like the US) has some 5,000 operational nuclear weapons. China is estimated to have less than 250 warheads, of which only 20 are believed to be on long-range ballistic missiles able to reach the North American continent. The Posture Review Report does not explain why the US could not reduce its arsenal to the same level as China, and

ask Russia to do the same. The April 2010 US-Russia New-START agreement limits the two countries to 1,550 deployed strategic nuclear warheads each, with the target to be reached by seven years after the treaty enters into force. The treaty is awaiting ratification in both countries.

The Nuclear Weapons Complex

The 2002 posture review focused considerable attention on the need to sustain and modernize the US nuclear weapons research design and production complex. It pointed to "underinvestment in the infrastructure -- in particular the production complex," and proposed establishing a new capacity to produce nuclear weapon components. Modern US nuclear weapons are two-stage thermonuclear weapons (hydrogen bombs). These comprise a fission primary (in essence a small atomic bomb) based on a plutonium core, or pit, which explodes and ignites the thermonuclear fuel in a secondary made of highly enriched uranium. Facilities for producing these components were to be set up at the Los Alamos Laboratory in New Mexico and the Y-12 complex in Oak Ridge, Tennessee. All this despite the fact that the US already has in its weapons and in storage thousands of plutonium pits that have projected lifetimes of at least 100 years and uranium secondaries that may last even longer.

The 2010 report makes the same argument, claiming: "In order to sustain a safe, secure and effective US nuclear stockpile as long as nuclear weapons exist, the United States must possess a modern physical infrastructure -- comprised of the national security laboratories and a complex of supporting facilities -- and a highly capable work force with the specialized skills needed to sustain the nuclear deterrent." It commits to funding the Chemistry and Metallurgy Research Replacement Project at Los Alamos and a Uranium Processing Facility at the Y-12 Plant, which would produce, respectively, the plutonium and uranium components for nuclear weapons. The combined cost is expected to be on the order of $6-7 billion.

In line with its posture review, the Obama White House intends to spend $80 billion over the next decade on nuclear weapon complex modernization. Linton Brooks, who served as head of the National Nuclear Security Administration and managed the nuclear weapons complex in the Bush administration, said at an April 7 Arms Control Association briefing in Washington, "I ran that place for five years and I'd have killed for that budget."

For the next fiscal year, the Obama administration has proposed one of the largest increases in nuclear warhead spending in US history. Los Alamos National Laboratory will see a 22 percent increase in its budget, said to be the largest one-year jump since 1944. The flagship project is the Chemistry and Metallurgy Research Replacement Nuclear Facility, which could produce 125 plutonium pits per year and as many as 200 pits year.[5] This annual production capacity is roughly equivalent to the total arsenal of Britain (less than 200 weapons) or a large fraction of the arsenals of China (250 weapons) or France (less than 300 weapons).

The Obama administration has proposed additional spending of "well over $100 billion" on nuclear weapon delivery systems, including new land-based missiles, new submarine-launched missiles, new submarines and bombers.[6]

Using Nuclear Weapons

A critical element of nuclear policy is elaboration of the conditions under which the US might use nuclear weapons, as well as when the US might refrain from their use. In February 2002, the Bush administration reaffirmed the policy adopted by the Clinton administration that the US "will not use nuclear weapons against non-nuclear weapon states parties to the Treaty on the Nonproliferation of Nuclear Weapons, except in the case of an invasion or any other attack on the United States, its territories, its armed forces or other troops, its allies or on a state toward which it has a security commitment, carried out or sustained by such a non-nuclear weapon state in association or alliance with a nuclear weapon state."

The 2010 Nuclear Posture Review also addressed this issue, and after considerable debate inside the administration, resolved that "the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation obligations."

This formulation of what is known as a "negative security assurance" appears to be an advance on the previous policy, but is less straightforward than it appears. It does not, for instance, make clear what specific non-proliferation obligations a non-weapon state would have to comply with to be assured of being free from US nuclear threats. Nor does it specify who would decide about compliance. Currently, possible NPT violations are determined by the IAEA's Board of Governors, which is required to report violations to the UN Security Council.

Asked to clarify this position at a Carnegie Endowment event in April, the White House's coordinator for arms control and weapons of mass destruction, proliferation and terrorism, Gary Samore, explained that "incompliance with their nuclear non-proliferation obligations is intended to be a broad clause and we'll interpret that -- when the time comes, we'll interpret that in accordance with what we judge to be a meaningful standard." On the question of who would determine if a country is non-compliant, Samore argued, "That's a US national determination. I mean, obviously, we'll be influenced by the actions of other parties. If the IAEA Board of Governors decides that a country is not in compliance with their safeguards obligation, it would be difficult or -- not impossible, but difficult -- for the US government to ignore that."

This interpretation suggests that the US intends to be the sole judge of what non-proliferation obligations a non-weapon state must uphold to be safe from the threat of nuclear attack; whether a state is violating these obligations; and, in making this judgment, the US reserves the right to override the relevant international law and international institutions. Given the ongoing disputes among Security Council members about the extent and seriousness of Iranian non-compliance with NPT obligations, the Obama White House's interpretation of these phrases should be a matter of great concern.

Toward a World Without Nuclear Weapons

In his 2009 Prague speech, President Obama explained that while he wanted "the peace and security of a world without nuclear weapons," he recognized that "this goal will not be reached quickly -- perhaps not in my lifetime." Six months later, the goal seemed to recede even further in to the future. In a Washington speech, Secretary of State Hillary Clinton argued, "We might not achieve the ambition of a world without nuclear weapons in our lifetime or successive lifetimes." She did not say how many lifetimes it could take. In the meantime, she told an ABC interviewer, "We'll be, you know, stronger than anybody in the world, as we always have been, with more nuclear weapons than are needed many times over."

The Obama Nuclear Posture Review Report, while embracing the goal of abolition, reveals why it is believed the path to a nuclear weapons-free world will be interminably slow and have many pitfalls. The report specifies that some of the preconditions for eliminating nuclear weapons are:

success in halting the proliferation of nuclear weapons, much greater transparency in the programs and capabilities of key countries of concern, verification methods and technologies capable of detecting violations of disarmament obligations, enforcement measures strong and credible enough to deter such violations, and ultimately the resolution of regional disputes that can motivate rival states to acquire and maintain nuclear weapons. Clearly, such conditions do not exist today.

The final precondition stipulates in effect that world peace must be achieved before the US and its strategic allies and partners will contemplate abolishing nuclear arsenals. Such a stipulation would stand on its head the premise of the NPT, as well as the speeches of Presidents Kennedy and Obama, that the existence of nuclear weapons is itself the salient threat to global peace and security.

The majority of states do not share the Obama administration's way of thinking about how to proceed. Interest is gathering in negotiating a nuclear weapons convention, modeled on the treaties that banned chemical and biological weapons. Each year, large majorities at the UN General Assembly carry resolutions recognizing that "there now exist conditions for the establishment of a world free of nuclear weapons" and calling for the start of negotiations on the total elimination of nuclear weapons. The momentum was

evident most recently in the May 2010 final declaration of the NPT review conference, which said, "All States need to make special efforts to establish the necessary framework to achieve and maintain a world without nuclear weapons." The declaration called, in particular, for "consideration of negotiations on a nuclear weapons convention or agreement on a framework of separate mutually reinforcing instruments, backed by a strong system of verification."

The elimination of nuclear weapons is being discussed today with a seriousness that has been absent during most of the nuclear age. The goal commands widespread support among states and peoples. Rhetoric aside, the US under President Barack Obama remains committed to a familiar nuclear posture based on retaining nuclear weapons for the indefinite future and accepting scant constraint on how these weapons might be used.

July 5, 2010

* The article has been written for and published by the Middle East Report and available at <http://www.merip.org/mero/mero070510.html>

.

The author is a physicist with the Program on Science and Global Security at Princeton University and an editor of Middle East Report. He is a close associate of the CNDP.

Endnotes

[1] Robert McNamara to Lyndon B. Johnson, "Recommended FY 1966-1970 Programs for Strategic Offensive Forces, Continental Air and Missile Defense Forces, and Civil Defense," December 3, 1964, National Security Archive, accessible at: www.gwu.edu/~nsarchiv/nukevault/ebb311/doc02.pdf.

[2] "National Intelligence Estimates of the Nuclear Proliferation Problem: The First Ten Years, 1957-1967," National Security Archive Electronic Briefing Book 155, June 1, 2005, accessible at: www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB155/index.htm.

[3] Henry Kissinger, George Shultz, William Perry and Sam Nunn, "A World Free of Nuclear Weapons," Wall Street Journal, January 4, 2007.

[4] New York Times, April 22, 2010.

[5] For details on the CMRR project, see www.lasg.org/CMRR/open_page.htm.

[6] Washington Post, May 14, 2010.

C. On Nuclear Power

Safety Concerns with the Prototype Fast Breeder Reactor

Ashwin Kumar and M V Ramana#

The Civil Nuclear Liability Bill being discussed these days is primarily focused on imported reactors. However, the record of the Indian nuclear program is not good, with many lapses in safety practice. The Department of Atomic Energy's plans for expansion of nuclear capacity in India depend largely on its construction of domestically built fast reactors. It is constructing its first Prototype Fast Breeder Reactor (PFBR) in Kalpakkam and envisions building many more of similar design by mid-century. Unfortunately this reactor is inadequately safe, as described in this article.

What is special about the PFBR? As the name indicates, the reactor operates with "fast" or energetic neutrons. In such reactors, the core is not in its most reactive configuration while it is operating normally. Therefore, rearrangement of the fuel in an accident could lead to an increase in reaction rate. If this were to occur quickly, it could lead to a very fast energy release like a small nuclear explosion. Such a "core disruptive accident" or CDA has been an important consideration in fast reactor design and licensing worldwide. Such an explosion could rupture the protective barriers and disperse radioactive material into the environment.

In large fast reactors such as the PFBR, there is another reason to consider these accidents in evaluating the reactor's safety. Many of these reactors have what is called a positive void coefficient, which means that if the coolant in the central part of the core were to heat up then this tends to increase reactivity; this has a destabilizing effect on the reactor and accelerates core melting in an accident. Such a positive void coefficient contributed to the runaway reaction increase in the Chernobyl accident in Ukraine in 1986.

The only other fast reactor built thus far in India is the smaller Fast Breeder Test Reactor (FBTR). Because of its much smaller core, it does not have a positive void coefficient. Therefore, the PFBR is unprecedented in India's nuclear experience and the DAE does not yet have an experiential basis for the safety challenges that might be posed by the PFBR. Furthermore, the PFBR has much more fuel in the core and severe accidents can be much worse and that much more difficult to design for.

Fast breeder reactors are a complex technology, and the poor international experience shows how far they are from commercialization. The Superphenix, the flagship of the French breeder programme, was shutdown for the vast majority of its lifetime of 11 years, producing only what energy it could have during 0.73 years of full power at design capacity. Safety has been an important factor in the suspension of fast reactors worldwide. For example, concerns about the adequacy of the design of the SNR-300 reactor in Germany led to its being contested in the 1980s, and finally to cancellation of the project. The Japanese reactor Monju shutdown in 1995 after a sodium leak caused a fire, and is yet to restart. The Russian BN-600 has suffered from repeated sodium leaks and fires.

The DAE, like the rest of the fast reactor community, has tried to study how severe a CDA can be, and how much energy it could release. It claims that based on these studies, it has designed the reactor so that the containment building could withstand even the most severe accident.

Two distinct questions can be asked in evaluating the safety of the PFBR. First, can one be confident enough of how the accident propagates and how much energy might be released? The simple answer is no. The phenomena that occur in the reactor core once it melts are very complex and there is no full-scale experiment to compare with the models that designers use. Moreover, there are important omissions in the DAE's studies, which are therefore not adequately conservative. For example, the DAE's safety studies ignore fuel failure mechanisms that could become important in a CDA. It also ignores destabilizing effects arising from possible relocation of the material that forms protective cladding for the fuel if the fuel-pins fail; like the sodium voiding this also has a destabilizing reactivity effect but is ignored. Its safety studies often gloss over the violation of safety constraints, thereby belying claims of completeness. Furthermore, uncertainties in physical properties are often ignored. Therefore, the assumption that the accident can spread only to small parts of the core, which forms the basis of the PFBR design, is unsupported by its studies. (For details, see Ashwin Kumar and M V Ramana, "Compromising Safety: Design Choices and Severe Accident Possibilities in India's Prototype Fast Breeder Reactor", Science and Global Security, 16: 87-114, 2008)

The PFBR also fares poorly in the maximum accident energy of its design, when compared with other fast reactors worldwide. For example, the smaller German SNR-300 reactor (producing 760 MW of heat) was designed for 370 MJ of energy produced in a core disruptive accident. This is much larger than the 100 MJ of the PFBR design (which is to produce 1200 MW of heat). Similar conclusions are obtained in comparing with other fast reactors: the PFBR should have been designed to contain many hundreds of MJ energy release. Safety in design requires conservatism in estimating how severe an accident could be. Clearly, then, the PFBR's designers and those who studied its safety have not accounted for a worst case accident.

A second question is whether the design efforts for the PFBR have been stringent, given the possibly of accidents that are difficult to contain. Here the record reveals inadequate efforts at safety improvement. As mentioned earlier, the destabilizing sodium positive void effect in fast reactors is a problem as it increases the possibility that

accidents will escalate. It is possible to make this effect less severe by designing the reactor appropriately. In recent decades, a few countries attempting to improve the safety of fast reactors have made this effort but the DAE has not.

Another area where compromising choices have been made is in the containment building. These buildings must be designed to withstand the high pressures that could be produced in a severe accident. When compared to containment buildings of other fast reactors worldwide, the PFBR containment design is weak. It is designed to contain a maximum increase in pressure of only 25 kilopascals, compared to a much higher value of 170 kilopascals for the Clinch River Breeder Reactor designed in the United States in the 1970s. In terms of its accident containing capacity, the PFBR design is weaker than prototype fast reactors in other countries.

Safety imposes economic costs; the reactor containment imposes a large capital cost and according to the DAE, "the capital cost of FBRs will remain the most important hurdle" to rapid deployment of breeder reactors. It has also been estimated by the DAE that reducing the sodium void coefficient, or making it negative and hence stabilizing, would have increased the fissile material requirement in the core by 30-50 percent, thereby adding to the costs. Even with the current PFBR design, the electricity that it produces will be more expensive that other options and this will rise further if it is used to produce weapons-grade plutonium. This inherent tension between safety and other objectives won't be resolved easily.

All of this has implications beyond the PFBR. The PFBR is just the first commercial sized breeder reactor that the DAE is constructing. The organization plans to construct literally hundreds more breeder reactors over the next four decades, which is how the DAE hopes to reach the 470 gigawatts of nuclear power that it promises by mid-century. In part because these plans are based on reactors with safety problems inherent to their design, they should not be implemented.

Ashwin Kumar is a graduate student at the Carnegie Mellon University. M V Ramana is a physicist and currently with the Princeton University, New Jersey as a visiting Research Scholar. He has authored a number of articles and books on nuclear power and weapons. A member of the CNDP NCC. This article is based on work conducted at CISED, Bangalore.

D. Civil Liability for Nuclear Damage Bill 2010

I. CNDP Supplementary Submission to the Standing Committee

To

Dr. T. Subbarami Reddy,

The Chairman,

Parliamentary Standing Committee on Science & Technology, Environment & Forests,

New Delhi

Sub: Supplementary Submission on 'Civil Liability for Nuclear Damage Bill 2010'

Ref.: Our Deposition on June 24 2010 before the Standing Committee

Sir,

Pursuant to your advice in response to our presentation before the Hon'ble Standing Committee on June 24 by our representatives, Praful Bidwai and Sukla Sen, we are making the following supplementary (written) submission.

It is, of course, a sequel to our earlier/original written submission dated June 18 2010. However, this could be taken as a stand-alone (upgraded) entity.

The submission is divided into three parts: one, the background / explanatory notes / comments provided in the original submission dated June 18; two, major points made/discussed during our deposition on the 24th; three, updated list of specific suggestions.

I. Background Note.

The defining features of the Bill, to our understanding, *are as under:*

One, it is an attempt to enact a law defining and tackling civil liability for nuclear damage, which does not obtain as of now, to facilitate participation of foreign players in Indian nuclear market.

Two, the Bill is also a move towards joining the Convention on Supplementary Compensation (CSC) regime by enacting a law in alignment with that.

Three, the Bill is a stepping stone to ensure entry of private players, whether foreign or indigenous, as "operators", as had been demanded by the FICCI in its June 2009 Report.

But the Bill proposes to go way beyond the CSC framework to roll out a red carpet for the prospective private players to assume the mantle of "operator".

Our major concerns, in brief*, are as under:*

A. The entry of private players as "operators" is too dangerous given the unique nature of nuclear power industry and its catastrophic potentials, as chillingly illustrated by the Chernobyl Disaster on April 26 1986. The fact is that profit maximisation is the very raison d'etre of a private enterprise giving rise to the consequent innate tendency to cut corners in terms of safety measures. Regulatory mechanisms can at best only "regulate". Hence, the envisaged ushering in of private players as "operators" of nuclear power plants is an open invitation to disaster.

What is of great relevance here is that the CSC framework in no way obliges the country to open doors to private players, foreign or indigenous, as "operators" of nuclear power plants.

B. There must not be any overall "cap" on the quantum of compensation to potential victims. That is too unjust and inhumane. It has to relate to the actual damages caused. The overall "cap" of 300 million SDR, which works out to about 460 million US$, is even lower than the compensation amount of US$ 470 million ratified by the Indian Supreme Court to the victims of Bhopal Gas Disaster way back in 1989.

The CSC, again, does NOT so obligate. It actually allows for a three-tier compensation regime. Up to a limit, or "cap", of 300 million SDR, in the first tier, to be paid by the "operator" or the national government, as per the law of the land. Then another tier, to a further 300 million SDR or so to be drawn from the common pool of funds maintained by the CSC. And then the national government may, at its own option, pay even beyond the upper limit of this second tier limit without any "cap" whatever.

C. The Bill pegs the "liability" of the private "operator" at Rs. 500 crore per incident, with the further proviso to lower it down to even paltrier Rs. 100 crore. And the state, i.e. the Indian taxpayers/citizens, will have to pay, in case of an accident in a privately operated nuclear power plant, the amount of "liability", i.e. compensations for damages, exceeding the "cap" for a private "operator" subject to the overall limit of 300 million SDR.

Even in this case, The CSC does NOT obligate to peg the "cap" for the "liability" of any "operator" any lower than 300 million SDR, which amounts to around Rs. 2,100 crore or 460 million US$. And while the CSC obligates that there must be a cap of 300 million SDR, it does not envisage any overall cap on the compensation to be made available to the victims by a member nation.

This is evidently a brazen attempt to favour private enterprises at the cost of Indian citizens. And a lower "cap" for a private "operator" would only further strengthen its intrinsic propensity to cut corners in the realm of "safety", with nightmarish prospects.

II. Major Issues Raised/Discussed.

A. The entry of private players as "operator" (of nuclear power plant):

Some members of the Standing Committee claimed that the Bill does not mention "private operator" and thereby there no is no reasonable ground the apprehension, as voiced by the CNDP, that the Bill is meant to usher private players in as operators.

In response it was pointed out that:

The Cl. 6. (1) provides: "The maximum amount of liability in respect of each nuclear incident shall be rupees equivalent of three hundred million Special Drawing Rights [Rs. 2,100 crore approx - subject to the exchange rate applicable at any given point of time]."

The Cl. 6. (2), inter alia, provides: "The liability of an operator for each nuclear incident shall be rupees five hundred crores."

The Cl. 7, inter alia, provides:

Quote

The Central Government shall be liable for nuclear damage in respect of a nuclear incident, -

(a) where the liability exceeds the amount of liability of an operator specified under sub-section (2) of section 6, to the extent such liability exceeds such liability of the operator;

(b) occurring in a nuclear installation owned by it; …

Unquote

Read together, the above clearly means the following:

One, there are two categories of "operators": one, the Central Govt. itself (as is the case right now without any exception whatever); two, other than the Central Govt.

Two, The Central Govt, as operator will have a liability cap of 3 million SDR, the other class of operators will have a liability cap of Rs. 500 crores (which is adjustable and may in fact be as low as Rs. 100 crore at the discretion of the concerned authority).

Evidently, this second category is "private" operators for whom the liability cap is kept radically lower.

It was further pointed out that given the catastrophic potentialities of the nuclear industry, apart from serious routine hazards, entry of private operators, in the compulsive hunt for private profit, could just spell disaster. Both the recent oil spill in the Gulf of Mexico, where the BP is the operator, and the Bhopal gas disaster where the UCC/UCIL was the operator graphically illustrate that.

B. Total Cap on Liability:

It was claimed by some members of the Standing Committee that there is no cap on total liability.

The CNDP reps. pointed out that the Cl. 6. (1) Unambiguously provides: "The maximum amount of liability in respect of each nuclear incident shall be rupees equivalent of three hundred million Special Drawing Rights."

So, that's the total cap laid down.

As the cost of damage/disaster may run into billions and billions of SDRs, no (total) cap whatever is acceptable. And this cap of 300 million SDR, let alone Rs. 500 (actually reducible to 100) crore, is too paltry.

C. The need for the operator to deposit money in an escrow account before setting up of a reactor.

D. The AERB must be made autonomous of the DAE. Its functioning must be monitored by an independent experts' body.

And, in case of the AERB not notifying an "incident", the right of any private citizen to draw the attention of the AERB must be explicitly acknowledged in the Bill.

Some recent instances of "incident" where the AERB remained in the dark initially were cited, the radioactive isotope in Delhi scrap market, in particular.

E. The Claims Commission must include member(s) of the medical profession with an established track record of engaging with people's health issues to ensure the proper assessment of the health impact of an "incident".

III. Specific Suggestions (Updated - based on oral presentation on 24 06 2010)

Contentious Clauses	Draft Bill Provides	**Suggestion/ Amendment**	**Explanation/ Comment**
1. Atomic Energy Regulatory Board to notify incident **(Chapter II, Cl. 3)**		**Any private citizen, or group, will have the right to draw the attention of the AERB to an alleged "incident' in case it is not notified by the AERB suo moto. The AERB shall duly examine and respond to such request.**	The AERB must be made autonomous of the DAE. Its functioning must be monitored by an independent experts' body.
2. Channelising the liability to "operator". **(Chapter II, Cl. 4 (1))**	The operator for the nuclear installation shall be liable for nuclear damage …	To be further added: **The operator shall deposit a sum of 300 million SDR in an escrow account for each nuclear reactor to be operated before start of operation**.	This is a welcome provision as otherwise there would be no pre-designated (singular) source from which the compensations for the victims to be obtained. And the whole process could turn utterly cumbersome and lengthy. *However, there must be adequate provisions for the operator to claim compensations, in turn, from the supplier/designer/consultant etc., as the case may be, without diluting its liability to the victims.* This will eliminate much of possible complications in the event of an "incident".

3. Exceptions to the operator as regards liability **(Chapter II, Cl. 5(1) i & ii)**	"grave natural disaster …" The list of exceptions, under Cl. 5(1) (ii), includes "terrorism".	**To be dropped in entirety.** **To drop "terrorism" from the list.**	The corresponding CSC clause - Annex, Article 3, 5. b. - provides that national law may have provision to drop such circumstances from the list of exceptions. It does not figure in the corresponding CSC clause: Annex, Article 3, 5. a. The concept of "strict liability" being the foundational concept, such exceptions, and consequent transfer of liability for damage under such circumstances to the "Central Government", and thereby to the Indian taxpayers, is wholly undesirable and unjustified.
4. **A. The total cap on liability** **(Chapter II, Cl. 6(1)**	The maximum amount of liability in respect of each nuclear incident shall be the rupee equivalent of three hundred million Special Drawing Rights.	***In case of an "incident" of exceptional gravity, the cap on the liability of the Central Government shall stand withdrawn through due notification by the Claims Commission.***	There must not be any cap on total liability. This, by the way, does not contradict the provisions of the CSC. Three hundred million SDR (equivalent to about US $ 450 million, depending on the exchange rate obtaining) is, in any case, too paltry. In case of Bhopal gas disaster, the compensation amount settled (to be paid by the UCC) back in 1989

			was 470 million US $. That was pretty much inadequate. In case, of oil spill in the Gulf of Mexico, the BP has committed an initial amount of US $ 20 billion. And there will be no cap. In the US, in case of a nuclear accident, the first 300 million US $ to come from the respective insurance cover, then up to US $ 10 billion from a common pool of funds maintained by the nuclear industry. Beyond that, the Federal Government, **without any cap. (Ref.: P. 2/4 of 'The Price-Anderson Act: Background Information: November 2005' at <http://www.ans.org/pi/ps/docs/ps54-bi.pdf>.)** No lower limit of liability for (private) operator. Clauses (6 & 7, in particular) to be modified accordingly. The Convention for Supplementary Compensation (CSC) does not obligate the GoI to go in for such differentiated liabilities, one for private operator and another for the state affiliated operator.

	Rs.500 crore as operator liability ceiling, with a provision for reduction to Rs. 100 crore. The balance, if any, up to 300 million SDR to be paid by the Central Government.		The discretionary provision for lowering the limit any further (to Rs. 100 crore), under Cl. 6 (2), para 3, is utterly unjustified. That makes nonsense of the "cap" of Rs. 500 crore. And the whole process of determining the "cap" appears to be entirely *discretionary.*
B. Limits of liability of a (private) operator **(Chapter II, Cl. 6(2) and 7(a) and (c))**		**This provision to be dropped.** **The operator is to be held liable for compensation up to 300 million SDR, as in case of the Central Government as operator under Cl. 7 (b).**	
	Provided also … cost of proceedings.		
		Cl. 6 (2), para 2 & 3 shall be deleted, in any case.	
C. **Cl. 6. (2), para 4**		To be amended as: **Provided also that the amount of liability as provided above is exclusive of any interest or cost of proceedings.**	
5. Claims Commission **(Chapter III, Cl. 9 (2))**		**The Claims Commission must include member(s) of the medical profession with an established track record of engaging with people's health issues to ensure the proper assessment of the health impact of an "incident".**	

6. Operator's "right of recourse" **(Chapter IV, Cl. 17 (a), (b) and (c))**		To be added: **The contract between any and every operator and its supplier(s) (of equipment, material or services, as the case may be) must include in writing a provision to the effect that the operator shall have the right of recourse in case of an "incident" without any exception, <u>including as regards the damage to the equipment/plant/site.</u>**	The reported move of dropping the Cl. 17 (b) is utterly objectionable, as explained above (at entry 2). This will make the supplier all the more cautious about the quality and when the Central Govt. is the operator it will not be able to waive the right of recourse clause under the pressure of lobbying or whatever.
7. A. Extinction of right to claim **(Chapter IV, Cl. 18)** B.	The right to claim compensation for any nuclear damage caused by a nuclear incident shall extinguish if such claim is not made within a period of ten years from the date of incident notified … (Para 2)Provided that where a nuclear damage is caused …. But, in no case, it shall exceed a period of twenty years …	The limit of 10 years is too short. To be made 30 years at least. . **Under such circumstances, the Central Government must duly examine a claim and pay appropriate compensation by routing the case through the AERB.**	This evidently will benefit the Indian taxpayers in case of an "incident". This would, however, be a departure from the norms of the CSC It means that in case of a damage arising out of a nuclear incident caused by some nuclear material stolen more than twenty years back, the victim will have no right to any compensation. That is totally unacceptable.

8. Exclusion of jurisdiction of civil courts **(Chapter V, Cl. 35)**		**While no civil court must have any right to intervene in the conduct of proceedings by the claims commission and ready implementation/enforcement of its award/order, much as in case of the Election Commission; there must be provision to for appeal to an appellate authority - High Court or Supreme Court, without affecting the immediate implementation/enforcement of the award/order by the claims commission.**	Otherwise, it would be violation of natural justice.
9. Offences and penalties (Chapter VI, Cl. 39 (1))	… shall be punishable with imprisonment for a term which may extend to five years or with fine or both.	To be amended as: shall be punishable with imprisonment for a term which may extend to ten years, with or without fine.	The provision for penalty for not complying with the award, Cl. 36 (1) (b), for example, is too paltry. In any case, this is only maximum. And, the provision for imprisonment must not be substitutable by fine.
10. **Offences by companies (Chapter VI, Cl. 40 (1), para 2)**	Provided that nothing contained in this sub-section shall render any such person liable to any punishment under this Act, if he proves that offence was committed without his knowledge or that he exercised all due diligence to prevent the commission of such offence.	This has to be amended as: Provided that nothing contained in this sub-section shall render any such person liable to any punishment under this Act, if he proves he exercised all due diligence to prevent the commission of such offence. "that offence was committed without his knowledge or": to be deleted.	This clause, in its present form, violates the principle of command responsibility and thereby would ensure that minions are punished in case of violations and senior officers go scot free.

11. **Immunity to Central Government and its employees** **(Chapter VII, Cl. 47)**	No suit … thereunder.	**This is to be dropped in entirety.**	No such immunity in operating a nuclear plant/installation is called for. Such immunity will only engender criminal negligence and worse.
12. **Power to remove difficulties** **(Chapter VII, Cl. 49 (1), para 2)**	Provided that no order shall be made under this section after the expiry of three years from the commencement of this Act.	**This para is to be dropped in its entirety.**	If the Indian Constitution needs be amended even after sixty years of coming into force, why the limit of "three years" here?
13. **General point** **Compensation for environmental damage**		Any public spirited group or citizen, apart from public bodies like Gram Sabha, panchayat, municipality etc. and affected persons, must be entitled to raise such claims. There must be a clear provision towards that. And, also who will receive such amount?	Under "Definitions" (ref. Chapter I, Cl. 2 (f) (iv), "nuclear damage" covers "impaired environment". It is, however, not provided who can lodge claims for "costs of measures of reinstatement" as mentioned therein.

Thanking you,
Achin Vanaik, Praful Bidwai
Sukla Sen, Anil Chaudhary
For the Coalition for Nuclear Disarmament and Peace (CNDP)
Date: 28 06 2010
Cc.: Members of the Standing Committee

II. The Nuclear Liability Jurisprudence:

An Analysis of Civil Liability for Nuclear Damage Bill 2010

Madabhushi Sridhar#

In recent times, no draft law has generated such a commotion among various sections of people as the Civil Liability of Nuclear Damage Bill 2010 has. This article is an attempt to explain and analyze the Bill with the background of law of liability that evolved over a period of time.

I. Background

Because developing India needs more power to meet increasing demands and it is not self-sufficient in nuclear fuel; India is importing it. Following the successful clinching of the Indo-US Nuclear deal, on October 10, 2008, India contemplated an ambitious goal to increase 5-fold the amount of electricity produced from nuclear power plants to 20,000 MWe by 2020 to be further increased to 63,000 MWe by 2032. Then India will be producing 25 percent of its electricity from nuclear power plants by 2050. India's present production of electricity through nuclear power is 3981 MWe. Thus it offers very lucrative field for nuclear reactor manufacturing MNCs of US and other countries.

Nuclear Power or Nuclear Market?: The US was in forefront in imposing isolating sanctions over India after it declared itself as 'nuclear weapon power' with five explosion tests on May 11 and 13, 1998. Thereafter, the US changed its policy and offering unprecedented cooperation in the field of nuclear power in India, radically reversed the situation in 2005. The US lobby has even coerced international community to accept India as legitimate partner in civilian nuclear trade. The 45-member Nuclear Supplier Group (NSG) on September 6, 2008 granted a unique waiver to India also. The Indo-US nuclear deal initially appeared to be bilateral, later it gradually opened up doors to the global nuclear market. This market remained out of bounds for India since first its nuclear test conducted by India on May 18, 1974 with the plutonium obtained from the spent fuel rods of the nuclear reactor CIRUS supplied by Canada to India onto the path of developing capabilities to generate nuclear power (only) for "peaceful" purposes. But west did not believe this 'peaceful' adjective of India, which perhaps now believes. Thus the Indo-U.S. nuclear deal has cleared many international obstacles to the import of enriched uranium, nuclear fuel, and related technologies, and opened the door for subsequent similar deals with countries such as France and Russia. It is in the interest of global market need to deal with India which has a potential scope as purchaser of reactors, which the American and other industry is looking at.

While US desires to grab this market through its own MNCs and prevent nuclear industrial giants from other western countries from taking it over, India too was anxious to fall in line to attract the US companies involved in nuclear commerce such as General Electric and Westinghouse. But only major hindrance the global market considered is the baffling liability for nuclear accidents. As the population is dense, damage could be severe in case of nuclear tragedy their profit range would drastically fall. They are prevailing over the law makers in India to introduce this kind of law limiting their liability or providing a kind of certainty as to the quantum of possible liability. Even the insurance lobby is bringing pressure to limit its 'risk'. The main aim of this bill appears to fulfill the desire of MNCs by which they could secure insurance cover for a fixed amount in their home state. The aims and objectives of the bill are written in very attractive way saying - it is to legally and financially bind the operator and the government to provide relief to the affected population in the case of a nuclear accident. The developments in international nuclear community in recent years circling around India suggest that the US might have linked the completion of the Indo-US nuclear agreement to India's capping of nuclear liability.

In his analytical article, Mr. Sukla Sen gave an account of US

pressure as a background of the bill:

> *This Bill is generally being looked upon as a continuum of that process, allegedly, in order to ensure a "level playing field" for the American enterprises - to let them have a significant share of the cake[2] - the Indian nuclear market - a part payback for the American generosity bestowed upon India, for its very own reasons though. The move had, however, been first conceived by the then NDA government way back in 1999 .[3] When the US Secretary Of State, Hillary Clinton, visited India in July 2009,[4] there were talks of the Bill getting passed by the Indian Parliament. But nothing of that sort happened. Again in late November 2009, when Singh was to meet Obama in Washington DC,[5] there was talk of getting the Bill enacted. Even then, it did not happen. The Union Cabinet had dutifully approved the Bill just on the eve of the visit though. With Manmohan Singh to visit the US to attend the Nuclear Security Summit, called by President Barack Obama, slated to be held on April 12-13[6] the government was again trying to push it through. Never mind the considerable cooling off of Indo-US relations in the meanwhile as compared to the George Bush days .[7]*

Another famous critique, Praful Bidwai[8] recently commented:

> *The US evidently wants a share of India's nuclear power pie for American corporations and is loath to see the French and the Russians cornering the bulk of the new atomic power projects that have been made possible by the US-India nuclear deal and its endorsement by the International Atomic Energy Agency and the 45-nation Nuclear Suppliers Group-secured by Washington. But so crude is the application of the US pressure, as usual, that it is somewhat counterproductive…. Besides being messy, such a compromise would still leave the bill's basic flaws una*ddressed.

The demand to limit the liability itself reflects lack of concern for human lives, exposing them to nuclear accidents and also represents disinterest in shouldering responsibility for damaging consequences. As per the 'absolute liability' law and norms as in force in any democratic and constitutionally governed state, it will be a big burden for those organizations. But the fear of huge damages and criminal liability alone would make the MNC to realize responsibility to improve safety to cent per cent. It might be in their business interest the MNCs are pressurizing the third world to make a law for limiting the liability, with a veiled threat that otherwise no country will provide fuel and technology to any Indian nuclear power plant, but the states with rule of law and welfare objective are expected secure the lives of the people. It is inhuman that no nuclear exporting country or company is willing to undertake the responsibility of safety in operations and maintenance of the plant in a country to which it has sold nuclear fuel, generator and technology. Their liability to the human lives and environment depend upon their fault and not on their undertaking. Whether they undertake or not, they are responsible as per law. It is unreasonable to desire to share only benefit and relinquish responsibility.

II. Emerging Liability Jurisprudence

As per the international and domestic Environmental law principles, polluter has to pay. If there is a nuclear accident caused by the MNC, it will be that polluter, which has to bear the burden. The expression payment means compensating the loss totally. There are various principles of liability that evolved over a period of time in UK, US and India.

1. **Fault based** liability, where the victim has to prove the fault of the wrong doer, while the defendant will get a chance to plead absence of negligence or fault etc.

2. **Strict liability** or no fault liability, where the wrong doer will be liable with or without proof of fault by the claimant.

3. **Absolute Liability:** stricter than the strict liability, where person engaged in hazardous and dangerous activity would be liable to pay for every loss. Principle of absolute liability is laid down by Supreme Court in Shriram Gas Leak case: *Where an enterprise is engaged in a hazardous or inherently dangerous activity and harm results to any one on account of an accident or in the operation of such hazardous or inherently dangerous activity resulting for example, escape of toxic gas, the enterprise is strictly and*

absolutely liable to compensate all those who are affected by the accident and such liability is not subject to any of the exceptions which operate vis-à-vis the tortuous principle of strict liability under the rule in Rylands v Fletcher.[9]

4. **Product Liability:** Whatever may be the consequence of the use of the product, if that resulted in any loss or harm, it is the bounden duty of the producer of the product to compensate the loss. It is a kind of product related strict liability, which exempts non-interfering middle agencies such as links between maker and seller. (Donogue v Stevenson[10]). If nuclear reactor is defective, and that caused an accident, more than an operator it is the maker or supplier to take up the responsibility of defective product ie the reactor and be liable.

On February 14, 1989 the Supreme Court[11] directed Union Carbide to pay up US $ 470 million in "full and final settlement" of all claims, rights, and liabilities arising out of the disaster in 1984. The entire suit was ordered to be settled with a view to provide 'immediate and substantial relief to the victims, essentially on the following conditions:

(1) The Union Carbide Corporation shall pay a sum of US $ 470 million (approximately 750 Crores) to the Union of India in full settlement of all claims, rights and liabilities related to and arising out of the Bhopal Gas disaster;

(2) All Civil proceedings arising out of the Bhopal Gas disaster shall stand concluded in terms of the settlement and all criminal proceedings related to and arising out of the disaster shall stand quashed wherever these may be pending..

In response to criticism from several quarters, and review petitions were filed by several action groups, the Supreme Court pronounced decision on 3rd October 1991[12] upholding the settlement except the condition of quashing criminal charges. The Supreme Court has set aside the quashing of the Criminal proceedings being not justified and said that those proceedings would continue[13]. The UPA's bill with liability limitations had several clauses against the norms debated during Bhopal litigation.

Unlimited liability: Common law and law of torts impose liability in tune with the loss as part of civil rights of the people, besides inevitable criminal liability. Over a period of time the tort law gave rise to 'strict liability' (Rylands v Fletcher) without expecting victim to prove the fault of wrong doer, and at a later stage, developed a stricter law of liability called 'absolute liability' (Sri Ram Gas leak case) where the wrong doers will be asked to pay compensation to all those who suffered because of their dangerous activity irrespective of their diligence, absence of negligence or lack of proof of fault. The legal regime has traveled so long that to go back from these well established norms will be a retrograde step without justification.

Primarily the liability is fault based. But most of the systems under rule of law have already working with 'strict liability' or no-fault liability principle to ensure quick realization of compensation from the industries causing disasters. The Supreme Court of India in Sriram gas leak case and other cases has rightly come out with new principle of 'absolute liability' where defences are reduced to a bare minimum and proof of negligence is totally done away with.

As the 1996 verdict in *Vellore Citizens Welfare Forum* vs Union of India put it, "Once the activity carried on is hazardous or potentially hazardous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective … whether he took reasonable care…." This absolute liability "extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation…"

The provisions of liability and limitation on it are in contradiction with the precautionary principle and the polluter pays principles, which are internationally accepted norms. These norms were also upheld and made law by the Supreme Court in relation to fundamental constitutional rights. It is not proper for any body to involve in potentially harmful activities. Those who indulge in inherently dangerous activity should

bear cost of all consequences of accidents, without availing any defences recognized for 'strict liability' in Rylands v Fletcher[14] principle. Public Liability Insurance Act, 1991 has codified this absolute liability principle as explained by the apex court, which amounts to legislative validation.

Even in Motor Vehicle Accidents, the liability towards third party is unlimited, which means whatever is the loss caused to third party by the involvement of automobile, the owner will be liable to compensate which of course is done by insurance company through compulsory insurance. After Motor Vehicle legislation, the Public Liability Insurance Act introduced another involuntary insurance for industrial disasters. Thus the law of unlimited liability for inherently dangerous operations is already in operation wherever the Motor Vehicle laws are enforced, it was extended to industry by legislation, and it was effectively evolved and approved by the apex court in India with greater emphasis. The idea of limiting the liability is not in tune with any norms and thus not acceptable. Any industry-specific law imposing liability must provide compensation for every loss covering the maximum possible damage. No such law can limit it to an average or minimum or probable damage for the victims of an accident. An Automobile can spell disaster to the family of victim, who has every right to seek restitution of loss. Motor Vehicle Act provided for it, and also evolved insurance mechanism to realize it. The premium paid to insurance company is no way proportionate to the size of the risk it is going to cover in a year. In spite of increase in number of accidents, the insurance companies are not going bankrupt because the losses and payments are still less in number because of various factors. When it was asked to compensate a particular victim of a particular motor vehicle, insurance company cannot say no. Restitution of the parties to the position prior to accident is the aim of 'compensation'. If this norm is fine for motor vehicle accident, why not extend it to cover victims of nuclear accident also?

Limitation on Liability: Unconstitutional: The eminent jurist, and former Attorney General, Soli Sorabjee has explained the legal position and viability of this proposed legislation[15] : Any legislation that attempts to dilute the norms of 'Polluter Pays'[16] and 'Precautionary Principle' and imposes a cap on liability is likely to be struck down as it would be in blatant defiance of the law laid down by the Supreme Court judgments. In Indian Council of Enviro-Legal case, the Court ruled that according to this principle;

> …once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on. … It is that the enterprise (carrying on the hazardous or inherently dangerous activity) alone has the resource to discover and guard against hazards or dangers - and not the person affected and the practical difficulty (on the part of the affected person) in establishing the absence of reasonable care or that the damage to him was foreseeable by the enterprise [see page 246 para 65].

The apex court also ruled in the above judgment that the responsibility for repairing the damage is that of the offending industry [see page 248] and imposed on the offending industry the obligation for carrying out necessary remedial measures to repair the environmental damage caused [see page 247 para 67].

A three judge bench of the Supreme Court in *Vellore Citizens'* case reaffirmed this point in these terms:

> "The Polluter Pays Principle as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of "Sustainable Development" and as such the polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology" [see page 659].

Apart from these profound judicial pronouncements, the constitutionally guaranteed rights of people in general also need to be secured. It would be against the interests and the cherished fundamental right to life of the people whose protection should be the primary concern of any civilized democratic government. The Supreme Court reiterated that "the Precautionary Principle and the Polluter Pays Principle have been accepted as part of the law of the land" and referred to Articles 21, 47, 48-A and 51-A(g) of the Constitution. The Supreme Court further held that "the onus of proof" is on the actor or the developer/industrialist to show that his action is environmentally benign" [see page 658 para 11].

With regard to measure of compensation also the Supreme Court was very specific: In Shriram gas leak case it said:

> We would also like to point out that the measure of compensation in the kind of cases referred to in the preceding paragraph must be correlated to the magnitude and capacity of the enterprise because such compensation must have a deterrent effect. The larger and more prosperous the entire, greater must be the amount of compensation payable by it for the harm caused on account of an accident in the carrying on of the hazardous or inherently dangerous activity by the enterprise.

III. Problematic Provisions of Civil Liability for Nuclear Damage Bill

There are four major problems with the Bill:

1. It caps the total liability for a nuclear mishap, however serious, at as little as 300 million SDR (Special Drawing Rights), and the liability for the operators of nuclear facilities to Rs.500 crore.

2. It imposes liability only on the operator, which means statutory exemption to plant designers, manufacturers and suppliers.

3. It leaves the determination of the occurrence and gravity of a nuclear accident exclusively to the four claims commissions at four zones under Atomic Energy Regulatory Board (AERB), which means a non-judicial executive body, would determine the losses in contradiction to existing law.

4. It bars the post-mishap period for which the operator is liable to only 10 years. If compared with Bhopal tragedy, as per this Bill, the plant owners (now Dow Chemicals) will not be responsible for continuous damage being caused.

The crucial clauses are: The clause 6 (2) provides: *The liability of an operator for each nuclear incident shall be rupees five hundred crores.* The Clause 7 (1) provides: *The Central Government shall be liable for nuclear damage in respect of a nuclear incident. (a) where liability exceeds the amount of liability of an operator specified under sub-section of section 6; (b) occurring in a nuclear installation owned by it.* Furthermore, the Clause 6 (1) provides: *The maximum amount of liability in respect of each nuclear incident shall be the rupee equivalent of three hundred million Special Drawing Rights.*

It means that in case of the power plants the quantum of "liability" is "three hundred million US $ Special Drawing Rights" or equal to the "maximum" (i.e. total) "liability" of 450 million US $. The lower quantum of "rupees five hundred crores" will apply only in case of nuclear power plants operated by private companies. As of now, there is no such private plant. Because there are specific provisions referring to operator, it is inferred that there would be private operators in future. Some are apprehensive of the possibility that public sector undertakings alone would be operators and thus the bill imposes liability on operator only. In case the operators are public sector bodies alone, limiting their liability is considered as an appropriate provision.

If the operators are private parties, there are apprehensions about their safety adherence. There is higher number of safety hazards unique to nuclear industry and the nuclear power plants are suspected to be potentially catastrophic, as proved in the Chernobyl Disaster. Will it be proper to hand over such a vulnerable industry with dangerous tendencies of killing people and destroying environment, to private hands with reduced liability law?

There are immunity clauses

where the operator is exempted. Clause 5 (1) says operator will not be liable for damage as a consequence of (i) a grave natural disaster of exceptional character and (ii) an act of armed conflict, civil war, hostility, civil war, insurrection or terrorism. Clause 5(ii) offers six excuses for an operator to escape liability. Clause 5(2) says the operator shall not be liable for damage caused to nuclear installation or to any property connected to installation or damage caused to the means of transport upon which nuclear material involved was carried at the time of nuclear incident. The bill also says the operator of a nuclear power plant will be liable for all accidents, including those that occur during the transport of the material. Of course, force majeure occurrences such as armed conflicts, natural calamities, terrorist attacks, etc., are excluded.

The maximum financial liability in case of an accident in nuclear reactors which has been set at the rupee equivalent of 300 million or Special Drawing Rights (SDRs) as per clause 6 is considered meager in comparison to the destruction caused by a nuclear accident. Especially when a similar law in US has set the financial liability for such accident at $10.5 billion, why there should be such a low limit in India? Clause 2(p) of Bill says Special Drawing Rights are as determined by International Monitory Fund. It is very clear as to who will decide the quantum of damages to compensate the damage.

There is further sharing of liability among liable groups as defined by clause 7, which states that the operator will have to pay Rs. 500 crore and the remaining amount will be paid by the Indian government. By this law the Central Government also undertook to bear the damage from nuclear incident caused by grave natural disaster, or terrorism, or damage caused to nuclear installation owned by it. Because these are defences which immune the operator totally. Does it mean that private operators are free to operate reactors in existing nuclear installations, and cause any damage to those government installations without any fear of liability?

The limits spelt in the Bill would mean immunity to certain sections which are otherwise liable. The clause 17 deals with the liability in case of a nuclear accident. It allows only the operator to sue the manufacturers and suppliers, i.e., victims will not be able to sue them. Combined reading these clauses will lead to an understanding that no one will, in fact, be legally liable because the recourse taken by the operator will yield only Rs. 500 crore at maximum. If written into the contract, the operator can claim the liabilities from the manufacturer and supplier as per that contract. This is purely between the product maker and supplier and operator. But the maximum amount payable by the foreign companies, as per this bill will be limited to a meager sum of Rs. 500 crore.

In sum and substance, this bill envisages to

a) prohibit the victims to sue operator for beyond Rs. 500 crore,

b) prohibit operator from getting more than Rs 500 crore from supplier or manufacturer,

c) prohibit victims from suing suppliers or manufacturers directly,

d) prohibit the courts of law from hearing the claims, and prohibit the claims beyond ten years from date of nuclear accident.

Mr. Sukla Sen[17] analysed and compared the liability amounts with the Bhopal tragedy saying:

> In case of Bhopal Gas Disaster, the Supreme Court had approved a deal between UCC and Union of India providing compensation to the victims amounting to US$ 470 million. That was way back in 1989, more than two decades ago. Even at that time this was considered grossly inadequate. So, while whatever cap on "liability" is unacceptable; this cap on total "liability" or the "maximum amount of liability", as the draft Bill has put it, is woefully paltry. More so, given the fact that a catastrophic nuclear accident may very well dwarf the Bhopal Gas Disaster in terms of devastations. In case of Chernobyl Disaster, while no precise estimate of total economic impact is available, as per one report, the total "spending [only] by [neighboring] Belarus on Chernobyl between 1991

and 2003 was more than US $ 13 billion. That's incomparably larger as compared to the "maximum liability" pegged in the Bill - 450 million US $! The second tier of compensation amounting to Rs. 2,100 crore is to be met by the government.

If we take inflation since 1984 into account, even the Bhopal settlement would be $1.5 billion today - about three times higher than the Bill's ceiling. Though the Bill allows for the raising or lowering of liability up to Rs. 100 crore, it offers no remedy. Besides, this is an arbitrary power given in the state's hands. Thus limiting the liability in terms of rupees also does not help the victims and largely benefits an MNC involved in irresponsible operation of the nuclear industry.

It makes no sense to let manufacturers and suppliers of nuclear plant and equipment off the liability hook. If defective designs are the root causes of a mishap (as in Bhopal), the designer must be made liable for the consequences of that mishap. Or else, we will end up punishing a subordinate agency, like the Indian subsidiary of Union Carbide, while exonerating the culpable parent.[18]

Another point of view is that this legislation is necessary because the Indian Atomic Energy Act of 1962 has no provision for liability or compensation in the event of a nuclear accident even though India operates 18 nuclear power plants.

The Bill provides for increase and decrease also. The Central Government may, having regard to the extent of risk involved in a nuclear installation by notification, either increase or decrease the amount of liability of the operator. Assessing the loss and imposing liability is supposed to be done by an independent adjudicator like court of law or special tribunal in each individual case separately. Giving power to the Government to increase or decrease the amount liability by issuing notification, which again amounts to 'executive limitation' on overall size of the liability, which is against principles of justice and cannot work out in actually providing relief and compensation to the victims.

One interesting feature of the Bill is that it recognizes that the consequences of a nuclear accident may not be limited to national borders and provides for liability outside India's territory too. But it makes no provision for enforcing that liability. It is practically almost impossible to enforce such liability beyond territory. It appears we traveling from progressive statutory absolute liability rule to statutory corporate immunity regime.

Right of Recourse: Although the bill channels all liability for a nuclear accident to the operator of the facility, Clause 17 of the draft allows the operator a 'right of recourse' which means the right to recover any compensation it is forced to pay. The Clause 17, *inter alia, provides as under: The operator of a nuclear installation shall have a right of resource where - (a) such right is expressly provided for in a contract in writing; (b) the nuclear incident has resulted from the wilful act or gross negligence on the part of the supplier of the material, equipment or services, or of his employee; and (c) the nuclear incident has resulted from the act of commission or omission of a person done with intent to cause nuclear damage.*

The clauses (a) and (c) are mentioned in the model law developed by the Convention on Supplementary Compensation for Nuclear Damage (CSC). However the CSC does not prohibit the inclusion of additional provisions. Indeed, some countries have already included gross negligence by suppliers as grounds for invoking the right of recourse in their liability laws. Article 4 of the South Korean Act on Compensation for Nuclear Damage, for example, includes language similar to 17(b) of the Indian draft. Clause 17(b) is needed to deter suppliers from being negligent. Clause 17(a) alone is inadequate since no supplier will agree to accept liability for negligence in a contract. But, surprisingly, the Union government has agreed to delete this key provision. The Hindu newspaper reported[19] how the U.S. nuclear industry was upset with 17(b) and wanted it deleted for fear it would "open the door to more lawsuits." The government has obliged the American side by getting rid of this sub-clause entirely.[20] After the uproar against the June 7 judgment of Bhopal trial court in a criminal proceeding leading to paltry punishment to the accused other than UCC and its chief Anderson, the Government of India decided not to delete 17 (b).

Another ridiculous 'immunity' provided by the bill to the nuclear radioactive polluters is that victims cannot question them ten years after the accident. The objections raised as regards the 10-year limit to "liability", as provided in Clause 18 (Chapter IV), are very reasonable and quite valid.[21] In case of exposure to low dose radiations, the injuries caused thereby - mostly in various forms of cancer, may take much longer time to manifest. However, it is very difficult to establish the causal link.

Exclusion of Courts jurisdiction: Clause 35 extends the legal binding that the responsible groups may have to face. The operator or the responsible persons in case of a nuclear accident will undergo the trial under Nuclear Damage Claims Commissions and no civil court is given the authority. The country will be divided into zones with each zone having a Claims Commissioner. This is in contrast to the US counterpart - the Price Anderson Act, in which lawsuits and criminal proceedings are taken up under the US courts.

Disadvantage to US companies?: One general and strong argument that is put forward by the supporters of the bill is that without this kind of law the US companies would be at a disadvantage, and that will affect our nuclear industrial progress. Their disadvantage is correct. The American vendors will be at no disadvantage as compared to their competitors as the vendors are routinely "indemnified for consequential damages". Even otherwise, the Bill does not prohibit the operator from making the equipment vendor liable on account of an accident. That is between the operator and the vendor. Liability depending upon the operation is something to do with the rights of the people at large that cannot be considered a disadvantage. No nation can allow any operator including Government operator to exempt from liability after causing a disaster through its dangerous operations.

Criminal Liability: Another basic omission in this Bill is mention of criminal liability. As we have seen from Bhopal incident leading to serious public anger at the way criminal prosecution was handled resulting in meager punishment and leaving out the real culprits, it is necessary to specify the criminal liability for causing death with negligence in such hazardous and inherently dangerous activities considering it as culpable homicide not amounting to murder.

Vicarious liability: The Bill should specify absolute liability principle and also impose vicarious liability with specific provisions on the persons including corporations who involved in selecting, designing and sending the technology or product which might have given rise to the dangers of disasters to pay the damages and fix up criminal liability on the overall incharge of principal MNC. The problem of escaping from liability and imposing liability only on subsidiary or operator must be thoroughly dealt with and the Bill should send across a message to the whole world that third world will not tolerate any more the accidents or disasters and excuses from liability.

India should lead the third world in agitating for vicarious liability of principal companies like UCC headquartered elsewhere over and above liability of the supplier. It should work for a convention and international agreement on vicarious liability of MNCs for the disasters of their subsidiaries in third world. There should be a time limit also within which they have to settle all claims and damage payments to the victims.

Political Opposition: As the essential aspects of the Bill became controversial the United Progressive Alliance could not table the Civil Liability for Nuclear Damage Bill, 2010, on March 15, 2010 with the strong opposition from the Left parties, sections of the Bharatiya Janata Party, other centrist parties and some of the Congress' own allies. It was referred to a Parliamentary Standing Committee, to analyze it thoroughly and critique the rationale for limiting the liability for accidents in civilian nuclear installations. Earlier, the Union Cabinet has openly ruled out the objections raised by the Finance and Environment ministries indicating that it succumbed to the pressure of the US officials.[22] After the approval a significant change is made in clause 6 (2), where the quantum of "liability of an operator for each nuclear incident" has been revised upwards from "rupees three hundred crores" to "rupees five hundred crores". A new "Chapter", 'Offences and

Penalties' with 4 clauses, has been added. Besides, the Chapter IV, 'Claims and Awards', has been somewhat restructured and expanded.[23] The Bill has 7 Chapters with 49 clauses along with 'Statement of Objects and Reasons' and 'Notes on clauses'. The objective of the Bill is explained as: *To provide for civil liability for nuclear damage, appointment of claims Commissioner, establishment of Nuclear Damage Claims Commission and for matters connected therewith or incidental there of. Para 7* of the 'Statement of Objects and Reasons' further lays down that the purpose of the Bill is: *to enact a legislation which provides for nuclear liability that might arise due to a nuclear incident and also the necessity of joining an appropriate international liability regime.*

The Bill in the Clause 9 (Chapter III) provides:

The Central Government shall, by notification, appoint one or more Claims Commissioners for such area, as may be specified in that notification, for the purpose of adjudicating upon claims for compensation in respect of nuclear damage.

The Chapter IV deals with 'Claims and Awards', which is the main part of the law. The clause 6 prescribes the limits of "liabilities", clause 7 spells out the "liability" of the Central Government and the clause 5 lists out the circumstances under which the "operator" shall not be "liable". The liability of supplier or producer is totally removed, which amounts to granting immunity to producers apparently a major departure from principle of product liability in strict terms.

Openings to Private Operators: After reading the serious apprehensions as introduction and brief outline of the killer bill let us study the impact of this defective law on this nation. Today we have a law called Environment Protection Act, 1985 which makes the polluter to pay and imposes on polluter a legal obligation to take precaution. This was strengthened by the most imaginative judicial legislation principle of Absolute Liability laid down by Supreme Court in 1986. These two legal instruments were not available to tackle the Bhopal gas leak tragedy in 1984. Now the situation is different, liabilities are fixed. The Public Liability Insurance Act, 1991 made it mandatory to the hazardous industry to insure the possible damage to people and environment. For people of India, there is no need for any law to make the hazardous nuclear industrialists liable today. But big energy corporate sector in United States of America and Union of India Government needs to limit the liability or exempt totally wherever possible.

Apparently serving the US and other western corporate interest, the Bill is an open invitation to corporate catastrophes as it envisages and permits the entry of private players as "operators" nuclear power industry. Because of unique nature of nuclear power industry and its catastrophic potentials, as chillingly illustrated by the Chernobyl Disaster on April 26, 1986, provisions of this bill are very dangerous. The fact is that profit-maximization is the very raison d'etre of a private enterprise giving rise to the consequent innate tendency to cut corners in terms of safety measures.

Enforcing liability strictly is what is needed than mere regulation, because regulatory mechanisms can at best only "regulate". Hence, the envisaged ushering in of private players as "operators" of nuclear power plants has become an open invitation to disaster. Thus validating the private participation as "operator" of nuclear power plants in India is emerging as a big legal controversy. This draft legislation aims at defining the 'liability', arising out of any nuclear accident, of an individual "operator" independent of (and unaffiliated with) the Government of India. At present all nuclear establishments & ventures, power plants are run by the state through affiliated bodies the Uranium Corporation of India Limited (UCIL) for uranium mines and the Nuclear Power Corporation of India Limited (NPCIL) for the power plants. Without specifically laying red carpet for private 'operators', the Bill provided for 'operators' and their 'liability' and at times 'immunity' specifically. This indicates possible private operators to come up with state support.

Limiting the total "liability" of the (private) "operator" plus the "state" regardless of the scale of the disaster is the most unreasonable part of the draft law. Generally an enactment aims at imposing liability in the interest of the people who are innocent victims. Strangely this law proposes just unacceptable

propositions of reducing the liability and offering immunity, besides legally burdening the state to pay for by foreign nuclear corporate caused disasters.

Defending the Bill: The liability aspect of the bill is very important and also crucial. The defence of the bill rests on this aspect and on the need for nuclear power to end the scarcity of power. The scientific studies and advances in nuclear technology have significantly reduced the probability of a nuclear catastrophe and thus nuclear power is considered an environment friendly and sustainable source of energy, though environmentalists oppose to agree that it is clean or green energy. The supporters of bill say, however, it is still necessary to keep in mind the possibility of nuclear accidents and other negative aspects of the nuclear energy and measures must be taken for its peaceful use. Substantial part of the controversy is about providing sufficient financial assistance under such circumstances.

Naturally, the government has defended this civil nuclear liability legislation. Pointing to the fact that only the government or NPCIL runs nuclear power plants in India, said liability of a foreign supplier could be defined by an agreement with the operator. Fixing responsibility in terms of faulty equipment would always be time-consuming and this was why the operator had been made directly responsible for compensation. For liability beyond Rs 500 crore and up to Rs 2,300 crore, a tribunal would assess the compensation to be paid. The Government and other supporters of this Bill as it is, refer to the legislations in other countries offering even lower amounts (the Rs 205 crore prevalent in China and Rs 335 crore in Canada), and $350-600 million in some other countries. As pointed out by Praful Bidwai and many opponents argued, the US had a pooled fund of about $11 billion under the Price-Anderson Act. The United States has displayed its concern for the safety of the US plays a safe game when it comes to its own people and tries to save coffers of its MNCs in relation to disasters in third world. What is that Indian statesman are interested in?

There are certain contentions in favour of the statutory limit on liability. Prakash Nanda[24], a journalist and editorial consultant for Indian Defense Review says comparing with Bhopal is irrelevant, he wrote:

> As regards the limit, the government has said that the amount could be raised. The point to note here is that in India all nuclear power plants are owned by the government, so there is no private motive in limiting the liability in cases of a nuclear accident, which, in any case, is a rarest of rare possibilities. Therefore, comparing the situation with the Bhopal-gas tragedy in 1985 is irrelevant since Union Carbide, owner of the Bhopal plant, was a foreign body (U.S. organization), whereas here the government of India owns the nuclear power plant. And the government can always go beyond the written liability amount by either meeting the excess from its own exchequer or from international sources such as the CSC. It does not make sense to have a high liability amount on paper, since doing so would result in high insurance coverage of the concerned power plant, which would ultimately be reflected in the rate of the nuclear energy it provided to consumers. As regards the second criticism, it is wrong to say that only the Americans are demanding a liability law of this sort. France and Russia, or for that matter any other potential supplier, also want such a law, something Energy Minister has revealed.

Comparison with Bhopal is just to explain the problem of enforcing liability in case of major disasters. A nuclear accident could be very high in its proportion compared to Bhopal tragedy. Without considering these major aspects, the state limits the liability simply to reduce the burden of insurance premium sacrificing the interests and even lives of Indians. Liability for Bhopal tragedy is not established and not imposed on Union Carbide, which supplied machinery, technology and offered training besides guiding the Union Carbide India Limited totally. Legally the UCIL is shown as separate concern in which the Union of India and Madhya Pradesh state have owned shares along with UCC. The Union of India accepted its share of liability either by offer-

ing damages beyond what is given by UC or suffering the losses of the disaster. If the state becomes responsible for the disaster caused by the foreign nuclear firm, it amounts to victims paying for the victims. Whether the nuclear firm belongs to India or a foreign country, responsibility should fall on those who caused it.

Official sources say still there is no problem, as general remedies are not closed by this law. Scope for legal action against a supplier of faulty or unsafe equipment is possible as per clause 46 of the nuclear bill, which says that the Act's provisions "shall be in addition to, and not in derogation of, any other law for the time being in force." This will allow the filing of tort claims and even criminal charges in case a nuclear accident is caused by negligence on the part of the nuclear operator or its equipment suppliers. Most of the torts claims are not pursued here in this country which presents very less possibility of enforcing general remedies. It is proved that general remedies could not be pressed in Bhopal case. The question is: If the liability is already there in general principles of tortuous liability, why this law is being made? When a special law is passed specifically for nuclear damage, how can a general law apply to nuclear accident?

IV. Liability norms in other countries

Other countries, while implementing the broad principles laid down under international conventions, have framed their own legislative regimes for nuclear liability. They also impose financial security requirements on the operator, which vary from nation to nation.

The Situation in the US: For instance, in the US, the 1957 version of the Price-Anderson Act - the world's first comprehensive nuclear liability law - prescribed the operator's liability at $60 million and the government's share of liability at $500 million. After a series of amendments, the Act currently absolves the State from any liability below $10.761 billion in cover and places the onus entirely on the operator, without any cost to public or government and without fault needing to be proven. Over $200 million has been paid by US insurance pools in claims and costs of litigation since the Price-Anderson Act came into effect, all of it through the insurance pools. Of this amount, around $71 million was related to litigation following the 1979 accident at the Three Mile Island. According to World Nuclear Association data, in mainland Europe, individual countries have their own cap levels.

In US, in the event of an accident, the first $375 million is paid by the insurer(s) of the plant. It is mandatory to insure the plant. Beyond that, up to US$ 10 billion is paid out of a fund jointly contributed by the "operators" as mandated by the Price-Anderson Nuclear Industries Indemnity Act. Beyond that, the Federal Government pays[25]. For US victims of nuclear accidents, they guarantee 10 billion US dollars from a fund of operators, and for the victims in India, US wants reduced, limited and truncated liability for a paltry amount. Does value of life differ from US to India?

In Germany: Germany has unlimited operator liability and requires €2.5 billion security, which must be provided by the operator for each plant. This security is partly covered by insurance. France requires financial security of €91 million per plant. Switzerland requires operators to get insurance cover of up to €600 million. It is proposed to increase this to €1.1 billion and ratify the Paris and Brussels conventions. In Finland, a 2005 Act requires operators to take at least €700 million insurance cover, and operator liability is unlimited beyond the €1.5 billion provided under the Brussels Convention. Sweden has ratified the Joint Protocol relating to Paris and Vienna conventions. The country's Nuclear Liability Act requires operators to be insured for at least Swedish Kroner (SEK) 3300 million (€302 million), beyond which the State will cover to SEK 6 billion per incident.

In Canada, the Nuclear Liability and Compensation Act is also in line with the international conventions and establishes the licensee's absolute and exclusive liability for third party damage. The limit of C$75 million per power plant set in 1976 as the insurance cover required for individual licensees was increased to $650 million in the Act's 2008 revision.

In Japan, China etc: Japan is

not party to any international liability convention but its laws generally conform to them. The two laws governing them are revised about every 10 years. Russia is party to the Vienna Convention since 2005 and has a domestic nuclear insurance pool comprising 23 insurance companies covering a liability of some $350 million. It has a reinsurance arrangement with Ukraine and is setting one up with China. China is not party to any international liability convention and has only a 1986 interim domestic law on nuclear liability, which corresponds with international conventions, except that the liability limit is only about $36 million[26].

V. Nuclear Accidents

It is necessary to study technicalities and the possible quantum of damage in nuclear accidents. In any nuclear industry, the maximum accident is a core meltdown: the overheating of the core of a nuclear reactor, the site of fission, due to a Loss of Coolant Accident (LOCA) or some other malfunction. It is the meltdown that caused disaster in Chernobyl (1986) Even the Three-Mile Island (1979) tragedy was a LOCA. But that was not led to meltdown. But meltdown cannot be ruled out altogether, until 2007, it was pointed out by newspapers and journals that the global nuclear power industry recorded more than 60 serious accidents and many of them were LOCAs. A LOCA can within seconds produce an uncontrollable chain of events. The danger is especially high in certain reactor types that have a positive void coefficient of reactivity. Simply put, this describes the reactor's tendency to get progressively hotter when bubbles form in the coolant. This can have grave consequences. The natural uranium-heavy water-based CANDU design, the mainstay of India's nuclear programme, has such a positive coefficient, according to Praful Bidwai[27].

What happens when there is a nuclear accident? Even if one of 430 operating commercial nuclear reactors can undergo a core meltdown, it would release vast amounts of radioactivity. The radioactivity, carried in dust clouds, can spread over hundreds of kilometres depending on the wind direction and speed. Such a spread of radioactivity to distant places will have a far reaching effect. It is inevitable to refer again to the worst example in Chernobyl accident, wherein leaked radioactivity made thousands of sheep in faraway Scotland and reindeer in northern Sweden, non consumable as they had fed on radioactively contaminated grass, and thus they had to be slaughtered. Explaining the disaster that can spell serious damage to India, Praful Bidwai wrote:

> A Chernobyl-like accident (1986) will wreak damage upon human and animal life, the environment and the infrastructure running into hundreds of billions to several trillions of dollars, and make huge swathes of land uninhabitable for centuries. The initial damage from the reactor-core meltdown in Chernobyl was estimated by the Ukrainian government at $250 billion. It may turn out even higher as more cases of cancer and genetic damage come to light, necessitating expensive treatment. German researchers estimate that a Chernobyl-type accident in Germany will cause damage in the range of 2 trillion to 5 trillion euros, which equals the entire annual gross domestic product of the world's third biggest economy, and until recently, its topmost exporter. ….An estimated 65,000 people perished in the Chernobyl accident. And the death toll mounts every month. This is more than three times the number killed in Bhopal. An Indian Chernobyl could conceivably kill even more given our cities' high population density. Such estimates are in line with forecasts made in the mid-1970s by United States Nuclear Regulatory Commission-sponsored studies with 3,300 early deaths plus 45,000 early radiation-related illnesses. More recent estimates are higher and run into scores of billions of dollars. It makes no ethical, technological or practical sense to subsidize nuclear power by extinguishing the liability burden or transferring it to the public[28].

It is impossible to imagine that the damage from an Indian reactor-core meltdown will be less severe. Even lesser accidents such as spills and leaks of nuclear material during transportation and handling, loss-of-coolant accidents (LOCAs), other radioactivity releases, and

overexposure of the public to emissions and effluents containing dangerous material can cause grave damage. With our industrially safety norms, mostly violated and the history of industrial disasters, the nuclear radioactivity leak or meltdown would have a very serious impact on human life, animals and environment. Referring to Charles Perrow's classic Normal Accidents; Basic Books, 1984, Praful Bidwai explained: Nuclear technology is extremely hazardous, indeed uniquely so: it is the only mode of energy generation capable of catastrophic accidents. Nuclear reactors concentrate within a small volume large quantities of fissile material, equivalent to several hundred multiples of the critical mass needed to make a nuclear bomb - and hence a high energy density. Their core must be cooled effectively and without interruption so that it does not overheat, potentially leading to a runaway reaction. That apart, all nuclear power generation based on existing reactor designs is inherently hazardous because, as organization theory puts it, it involves large, complex systems within which various subsystems are tightly coupled, leading to a rapid transmission of a problem event to the entire system and hence to catastrophic accidents. The probability of catastrophic nuclear accidents is admittedly low. But their consequences are extremely large, indeed unacceptably so. Praful Bidwai[29] wrote further:

> According to a post-Chernobyl study by an independent expert body, Gruppe Ökologie (Germany), all existing reactor types have safety problems, many have had LOCAs, and are vulnerable to all kinds of mishaps that can produce a catastrophic accident. Very few new reactors have been built in the developed countries since Chernobyl. No nuclear reactor has been ordered in the U.S. since 1973, even before Three Mile Island (1979). This has severely limited safety innovation.
>
> Two new designs - Westinghouse's AP-1000 and Areva's European (since pompously renamed Evolved) Power Reactor - have just emerged. These are claimed to be "Generation III-plus" and safer than the designs of the 1970s. But they have run into problems with regulatory authorities in the U.S., France, the United Kingdom and Finland, where the first fully market-driven nuclear project in Europe is now in progress - three-and-a-half years behind schedule and with 60 per cent over budget. Scrapping the Olkiluto project will produce a potentially fatal setback to the global nuclear industry.
>
> At any rate, the none-too-happy story of nuclear safety warrants a liability compensation regime which is strict and based on the polluter pays principle and the precautionary principle. That alone can provide the nuclear industry the incentive to redesign reactors for greater safety and operate them with abundant caution. The Bill does the opposite by lightening the nuclear industry's responsibility by Rs.1,800 crore to compensate the victims of a nuclear accident.

Another critical analyst Shobhana Saxena[30] wrote in Pak Observer: The Gulf of Mexico slick threatens the fishing industry, thousands of jobs, tourism and marine life in the coastal American states. The tragedy is that President Obama's effort to raise the liability cap to $1.5 billion failed as the Republicans in the Senate didn't allow the bill to be tabled. The Obama administration wanted to increase from $1 billion to $1.5 billion the amount that could be spent from an emergency cleanup fund paid with industry fees, and raise a $75 million liability limit BP would bear for costs not directly connected to cleaning up the spill, such as lost wages and tourism. Even as Obama licks his wounds, the real tragedy is unfolding in India where the government is again trying to push through the controversial nuclear liability bill. It's a cruel truth that when an industrial disaster happens in the US, the government of that country doesn't allow the MNC involved go scot-free. In the Gulf of Mexico accident just 11 people died, but the US government it trying to force BP to pay for everything - deaths, damages and lost wages.

Did we learn any thing from Bhopal? Though in principle, there is criminal liability for killing the people with gross

negligence, it is almost impossible to procure presence of the head of MNC who caused the disaster. Best example cited could be Bhopal tragedy and failure of Indian system to bring in Warren Anderson, Chief of Union Carbide Corporation. The verdict of a Chief Judicial Magistrate, Bhopal on 7th June 2010, holding eight officers of UCIL guilty after 26 years of tragedy speaks volumes of the tragic consequences of tragedy. In the whole episode, it is not properly examined as to what crime the offenders would be charged with? Is it murder, culpable homicide not amounting murder or merely causing death by rash and negligent act?

The second question is about civil liability, which is equally complex and totally depends upon the international cooperation. In Bhopal the achievement in this front is neither ideal nor acceptable. But that remains a reality. It is once again manifested that our governments do not learn from experience. Bhopal should have strengthened our commitment, law and enforcement mechanism. No doubt that Bhopal experience gave us a comprehensive environmental policy, but it failed to help developing a legal regime of imposing liability on MNCs. It is beyond any sane understanding capacity that with a tragic experience of Bhopal genocide caused through pesticide factory by Union Carbide, how India is signing this suicidal pact and what for. All the law of Globalization is a major disaster as that could not secure the lives in Bhopal and could not make the Union Carbide of US liable for its wrongs. The strange technical argument that Union Carbide has nothing to do with Bhopal Disaster is still a problem India faces in its efforts to nail this MNC. It has thrown total responsibility on the Indian special purpose vehicle 'Union Carbide India Limited' in which Government of India and Government of Madhya Pradesh were also share holders. More than the profit or benefit, these two governments shared the tragic load more than any body that caused it. The Government of India with its bankrupt mindset argued before US District Court that India had not developed a mature administration of justice system and judiciary here was not mature enough to deal with such massive liability litigation. It is a shame. Marc Galanter, an author and advocate represented India and filed the affidavit signed by Government of India, claiming immaturity of system to provide answer to Bhopal claim. It is ultimately Indian system that came to rescue of Indian victims and not any other law. Now the government is destroying efficiency of legal system by bringing in such a 'legal disaster' wherein the nation surrenders its right to claim for future disasters by multinational companies to give them 'free hand' to establish nuclear power houses and sell that power to a big market called 'India".

Disaster and Compensation: An estimated 8,000 people died immediately and another 12000 thereafter, when Union Carbide's pesticide plant in Bhopal spewed deadly cyanide gas on the night of Dec. 24, 1984. Tens of thousands of others who were maimed were largely left to fend for themselves or paid inadequate compensation. Around 5 lakh affected and remain victims for ever, two generations scarred, and the air, soil and water of the city poisoned forever. How much they got in compensation: $470 million, a ridiculous amount. In 1999, Bhopal survivors filed a class action suit in U.S. courts against Union Carbide, asking that the company be held responsible for violations of international human rights aw and for the cleanup of environmental contamination in Bhopal. Nothing tangible could happen in US and the litigation came back to India and it was ultimately a settlement but not adjudication. The counsel of Union of India and Union Carbide heeded the advise of the Supreme Court to end the possibly a prolonged legal war, which might not help a suffering victim.

After purchasing Bhopal industry the Dow Chemicals has refused to accept responsibility for the tragedy or pay proper financial compensation. Strangely, Dow spent $10 million on an advertising campaign to fix their image but offered less than a million to help the people of Bhopal. On the 20th anniversary of the disaster, Bichlbaum went on British TV to claim that Dow chemicals was belatedly accepting all the blame for the incident and would reimburse the people of Bhopal by selling off shares of the company and donating $12 million to the people affected.

Although the stunt was quickly revealed as a hoax, the result was that Dow Chemicals lost $3 billion dollars in less than a half hour during a frantic stock sell-off that followed the faux announcement.

The Union Carbide could get away lightly after causing the world's worst industrial tragedy at Bhopal. The government is aware of all that difficult and protracted process to get 470 million dollars as compensation from Union Carbide, which is one-fifth of the amount required to look after the health of those affected by the Bhopal gas leak and take care of the environmental damage it left behind. Compare this with fraudulent nuclear liability Bill the government is trying to impose on this country. The Bill, in its present form, seeks to limit all liability arising out of a nuclear accident to about $450 million and the liability of the operator only to Rs 300 crore. The difference between $450 million and Rs 300 crore (about $67 million) is the government's liability.

Considering India's population density (even stampedes at temples leave hundreds dead every year) and poor industrial safety record (radioactive material can be found in scrap markets), a nuclear accident can cause immense damage both in terms of loss of human life as well as environmental destruction.

The Bhopal case is regarded as a proof of international corporate 'immunity', instead of liability, where corporations use the laws of one nation to evade responsibility in another. With all this experience, the leaders of this country proposed under this nuclear liability bill to immune a nuclear equipment supplier from any victim-initiated civil suit or criminal proceedings in an Indian court or in the home country.

When the civil liability is truncated by Government itself, it is almost impossible to visualize making guilty criminal liable and sent to jail. The successive governments have not shown any desire to get Warren Anderson, the criminal-in-chief of Bhopal tragedy, extradited from New Jersey, where he has been living in a mansion. When he visited Bhopal after the tragedy he was given a red carpet welcome and farewell too at airport after getting a few papers signed, might be warrant of arrest and release on bail. The criminal case first conceded to be withdrawn as a term of settlement, but after admonition from Supreme Court the trial went on till recently and judgment was reserved by the trial court in Bhopal without personally hearing Warren Anderson. There is no surprise if the trial ends in finding local managers guilty of the ghastly crime with one or two comments on the masters of disaster.

VI. International Law of Nuclear Liability

Liability for Nuclear disasters is explained in four conventions. They are: 1. The International Atomic Energy Agency's (IAEA) Vienna Convention of 1963 (since 1977); 2. The Organization for Economic Co-operation and Development's (OECD) Paris Convention on third party liability in the field of nuclear energy of 1960 (since 1968); 3. Brussel's Supplementary Convention of 1963; 4. Convention on Supplementary Convention (CSC) 1997. The very low liability levels which were started with the Paris Convention of SDR 5 million, or €6 million, to SDR 175 million (about €210 million) were adopted by the Brussels Convention. However, by the 1982 Protocol, those levels were raised to SDR 300 million. In 1997, the Vienna Protocol and the Convention on Supplementary Convention (CSC) marked increased limits and set up a somewhat extensive, but still limited, definition of nuclear damage altered to include preventive steps and environmental reinstatement, and changes such as allowing compensation to residents of non-Contracting Parties and making 300 million DRs (about €360 million) the minimum amount that State Parties must make available under national laws, and the CSC would provide for a supplementary fund.53 On the basis of installed nuclear capacity, the CSC provides for additional funds to be made available through contributions by State Parties collectively and a UN rate of assessment. Although the CSC is not functional yet and is not going to come into force anywhere in the near future, whether or not a State is party to any existing nuclear liability convention or has nuclear installations on its' territory, it may adopt to the CSC[31] .

The expression "appropriate

international liability regime" in objective statement of the Bill clearly refers to 'Convention on Supplementary Compensation for Nuclear Damage' (CSC) 1997, which is based on the earlier Paris and Vienna Conventions. India is not a signatory to these Conventions, and the CSC has not come into force. Before India is considered for membership of this convention, it has to bring a national law in compliance with it. While the CSC provided for absolute liability of the operator, that is the operator would be held liable irrespective of its fault, the Bill provided for contrary to it. The concerned Clause lists out the circumstances under which the "operator" will not be "liable" in case of an accident. This is also in contradiction to the accepted norms of jurisprudence in democratic countries. International Environmental law also did not provide any such exemption to operators whose industry caused a disaster. It is highly unjustifiable to include such a clause in clear departure from CSC and other basic law. Even if India becomes a signatory of CSC it would not harm the interests of the people as that provided for absolute liability. The Bill has stipulated immunity to industries in certain cases, besides limiting their liability. The range of implications of joining this Convention, the main purpose of which appears to make Supplementary Compensation available jointly by the member countries in case of a (catastrophic) accident over and above the "liability" limit of the "operator" and the concerned state also need be thoroughly examined.

Sukla Sen[32] pointed out: *The mainstream, and also radical, critics, known to be otherwise knowledgeable, have rather pitiably missed the central point that the essential thrust of the Bill is to enact a law defining "civil liability" in case of "nuclear damage", in compliance of the CSC, and usher in private players as "operators" and peg their "liability" at ridiculously low levels, going much beyond the framework of the CSC.* The CSC does not obligate a member state to open up its womb to private players nor does it compel the "liability" to be pegged at a level below SDR 300 million.

Of the 30 countries that operate 436 nuclear power plants, 28 countries, with 416 such plants, have some sort of nuclear liability act in force in their territories. Only India, which operates 18 nuclear power plants, and Pakistan, which has two, are neither members of any international convention nor have any national legislation. But then, India, unlike Pakistan, has a big plan for augmenting nuclear energy.

There must be a national law or bilateral arrangement or international liability regime such as the Vienna-based Convention on Supplementary Compensation for Nuclear Damage[33] or the Paris Convention on Third Party Nuclear Liability in the Field of Nuclear Energy - for the exporter and importer to manage the liability in case any nuclear accident takes place. India is not a signatory to the Convention on Supplementary Compensation (CSC) for Nuclear Damage, which was adopted in 1997, seeks to provide complete protection for nuclear equipment suppliers. But the CSC has so far been ratified by just four countries - the United States, Argentina, Morocco and Romania. Devised by the Vienna-based International Atomic Energy Agency, the CSC comes into force after at least five countries with a minimum installed nuclear capacity of 400,000 megawatts ratify it.

This Bill is claimed to have been made as per on two nuclear liability conventions of the early 1960s, the "Convention on Third Party Liability in the Field of Nuclear Energy", or the Paris Convention of the Organization for Economic Cooperation and Development (OECD), and the Vienna Convention on Civil Liability for Nuclear Damage of 1963 under International Atomic Energy Agency (IAEA) auspices.

These conventions limited nuclear liability because nuclear power was believed to have unlimited potential for public welfare. Sixty years on, nuclear power has comprehensively belied its early promise. It is far more expensive (about twice as costly as) than electricity from fossil fuels or even renewables like wind. It is inappropriate for developing-country grids that have large peaking-power requirements. And it bristles with safety problems - from radiation exposure of occupational workers, routine radioactivity releases, LOCAs, and problems posed by high-level wastes, which remain hazardous for thousands of years.

Besides, many renewable energy sources have since evolved impressively, demolishing the no-alternative-to-nuclear-power claim. The global nuclear industry, working through the IAEA, recently sponsored the Convention on Supplementary Compensation (CSC) for Nuclear Damage which works within the Paris-Vienna framework but doubles the maximum compensation, to $986 million. The global nuclear industry, working through the IAEA, recently sponsored the Convention on Supplementary Compensation (CSC) for Nuclear Damage which works within the Paris-Vienna framework but doubles the maximum compensation, to $986 million[34].

Science and Technology Minister of Government of India claimed that the CSC was tried and tested, widely respected international treaty "the international regime for compensation payment in case of nuclear accidents". But the reality is otherwise. Since it was opened for signature in 1977, the CSC has only been signed by 13 states and ratified by only four countries (Argentina, Morocco, Romania and the U.S.) - in place of the minimum of five countries needed for its entry-into-force. Most of the developed countries have passed their own domestic laws on nuclear liability. Their compensation levels are not as sordid as the CSC's. States like Germany, Austria and Sweden laws did not place any cap on liability. Even the U.S. has a corpus fund of $10.7 billion for compensation. This CSC exists only on paper.

In his analysis Sukla Sen further pointed out the difference between the CSC and our Bill, saying: However, once India joins the CSC, and it comes into force, the cap on total "liability" would undergo significant change as additional compensation over and above 300 million SDR would become available. In fact the CSC also permits the concerned states to provide for further compensation, without any "cap". There must not be any overall "cap" on the quantum of compensation to potential victims. That is too unjust and inhumane. The CSC, as explained above, does not impose any such obligation to limit or cap the liability. It also does not obligate entry of private "operators". Natural justice demands that it has to relate to the actual damages caused. The overall "cap" of 300 million SDR, which works out to about 460 million US$, is even lower than the compensation amount of US$ 470 million ratified by the Indian Supreme Court to the victims of Bhopal Gas Disaster way back in 1989[35].

VII. Conclusion: Draft Law in Breach of Law

The Sovereign Republic of India in its 60th year of Constitutional Rule of Law is reinventing the liability jurisprudence to detriment of people and for the benefit of MNCs. It can also be condemned because it promotes all terms of MNCs at the cost of people and future generation. The bill is virtually the Corporate Immunity for National Damage Bill 2010. It appears that Indian political rulers are apprehending post-nuclear-accident-trauma of foreign corporate bodies and scripting a legal remedy as a sequel to nuclear disaster if happens at all. 'King can do no wrong' was an old British maxim about sovereign immunity in tort (civil wrongs) law. But for modern India, the new maxim is 'MNC can do no wrong'. The jurists and activists are questioning why the state should take responsibility for the damage which might be caused in nuclear accidents resulting from nuclear reactors by enacting self-imposing liability legislation? Whether India is trying to curry favour of US companies by this law, just to secure foreign direct investment or foreign technology and the nuclear reactors to India to increase the generation of nuclear power in future?

In 1999, soon after the second Pokhran tests, the Vajpayee government initiated the process of India joining the CSC for Nuclear Damage, which is the international regime for compensation payment in case of nuclear accidents. Simultaneously, the Vajpayee government set up a committee to study the nuclear liability regime. This committee produced a report in November 2001, which said that the Atomic Energy Act was silent about liability and compensation in case of nuclear accidents and that it was time to have a legal mechanism to clarify liability in case of nuclear accidents and join the international treaty regime for nuclear liability.

It is claimed that the IAEA is an impartial body as regards nuclear safety or regulation, its

very charter commits it to promote nuclear power on the presumption that it is safe and economical. This agency has refused to involve another United Nations agency, in particular the World Health Organisation with its strong health mandate, in assessing the damage from Chernobyl. For years, it blatantly claimed that less than 30 people died in the accident - primarily firemen[36].

Here it is pertinent to keep in mind that the CSC does not establish either a floor or a ceiling on the liability of the operator or require the concerned state to limit the liability of the "operator". It in no way makes it incumbent upon any member country to either bring in private "operator" or limit/cap its "liability" at a level lower than the "total liability" (of minimum 300 million SDR)[37]

Sidhartha Varadarajan, wrote in The Hindu[38] quoting the responses of American nuclear industry representatives. Speaking on background because of the sensitivities involved, an American nuclear industry source told The Hindu, "CSC Annex Article 3.3 says, 'The liability of the operator for nuclear damage shall be absolute'… [But] the draft India bill has no provision making the operator absolutely liable, as required by the CSC." This objection assumes significance in the light of claims made by senior Indian officials in briefings to the media and political parties that the Rs. 500-crore cap applies only to "no-fault liability." Nuclear operators and their suppliers would continue to be exposed to claims of tortious liability - liability for damages caused through some fault of theirs - by Indian victims in the event of an accident. Indian officials cited Article 46 of the bill - which says the liability law will not take away from the provisions of the existing laws allowing action in the event of a nuclear accident - and reiterated the government's willingness to make the bill's provisions more explicit. They said the Article 35 exclusion of civil courts jurisdiction applied only to claims arising out of a 'no-fault liability'. Civil courts would remain fully empowered to hear tort claims. On his part, the American nuclear industry source also identified the 'right of recourse' granted to nuclear operators by the Indian bill against suppliers as a major problem area. Article 17(b) of the bill - first highlighted in The Hindu- allows the operator to sue his supplier for recovery of any damages he is forced to pay if a nuclear accident results from "the willful act or gross negligence on the part of the supplier of the material, equipment or services, or of his employee."

"Like the lack of absolute or strict liability, 17(b) is inconsistent with the CSC, as well as the Paris and Vienna Conventions and the nuclear liability laws of every other country with a nuclear power programme," the U.S. nuclear industry source said.

The American source also found fault with Article 46. "If this article means the operator would not be exempt from any other proceedings [other than criminal liability], that too would be inconsistent with the CSC requirement for exclusive operator liability. CSC Annex Article 3.9 provides, "The right to compensation for nuclear damage may be exercised only against the operator liable ... The draft bill has no such provision channelling liability exclusively to the operator."

While the Obama administration has not said anything to India about these "problem" clauses, Indian officials say they are aware that the nuclear industry association in the U.S. is beginning its lobbying drive. "They have held a meeting and it is only a matter of time before Washington raises this with us," an official said. "But they are also in a bind. After all, the Indian law is consistent with the CSC. But that doesn't mean we have to give up our rights under tort law and common law."

When basic principles such as liability to the extent of damage caused which is conveniently transferred to insurer under a risk management mechanism, polluter shall pay and no harm rule reflected in International Environmental Law, how can some conventions force the states to agree to cap the liabilities which stand to no reason or logic?. While the philosophy of sustainable development is universally agreed, how can any convention or law give primacy to development to the global environment and lives of people?

If the above referred conventions contradict other conventions of environment and sus-

tainable development, the law proposed by India is further dilution of both international and municipal law of liability. The Bill virtually says 'you do what ever you want and just do not pay more than 500 crores of rupees'. We are making a solemn promise that we do not make any body other than local company liable for any disaster caused by any reactor sold by any country. In one word the civil nuclear liability bill is a suicide pact with a promise of no liability. It is against all basic norms of international or national liability for wrongs perpetrated against human beings and humanity at large. Why should people of India guarantee benefit, profit and cover all the losses in favour of wrong doing nuclear power MNCs?

Is it a draft law aiming at limiting liability only to operator and awarding immunity to producer or any other player? How far it is proper to offer legal immunity or reduce the liability to those who install nuclear reactors which can cause nuclear dangers in its general operations? It is pathetic that we offer in golden plate the lives and golden environment of this great country to international corporate thugs in the name of 'energy development'. This bill is in the form of a pledge that we do not make any claim against suppliers and producers of defective nuclear reactors, and not claim beyond Rs.500 crore from operators even if thousands of us are killed and valuable environs are destroyed. The liability jurisprudence evolved from fault-based liability to no-fault liability emerging into absolute liability. This bill proposes retrograde law limiting liability in general and granting absolute immunity to some, imposing liability on the state itself in brazen violation of international liability norms, Constitutional principles, profound judicial pronouncements and environmental enactments.

What cannot be included in agreement, in the interest of people and the environment, is being made into a law. A government elected for five years, is attempting to inflict a permanent damage on coming generations depriving their right to remedy and to full compensation to the damage suffered.

For these reasons, this Civil Nuclear Liability Bill should not become law in present form. Better we do not have any law in its place because this bill is a manifestation of unreasonable bias towards the global nuclear industry and commerce with scant regard for human life in India. The purpose of making law is to provide for enforceable remedies but not to deny the remedies which were developed over a period of time. This Bill is denial by 'law' of decent compensation to the suffering public. Even if there is strong law, there is no possibility of enforcement bending Indian big industry to abide by it. But our existing law is not that strong and leaves so many problems and thus it does not work against a strong MNC which is beyond the jurisdiction of India. Instead of making a strong law making the makers, suppliers and operators liable jointly and severally for the cumulative loss of life, property and environment, by defining vicarious liability of principal companies for the damages caused by their subsidiaries and imposing criminal liability with specific legislative frame, state chose to deny what is already available to people under uncodified principles of liability developed by Supreme Court of India. When the law itself allows openly an unreasonable limit on 'operator' and absolute immunity on 'supplier' or 'Parent Corporation headquartered elsewhere, what kind of justice it can render to the future victims of possible nuclear accidents? If tested on what our Constitution and judiciary laid down over a period of time, the Act of this nature cannot stand scrutiny of the constitutional court.

Finally, this bill is totally unwarranted and good if withdrawn. If the Government has a strong will to provide perfect systems of liability and remedies, there should be a comprehensive law to impose civil liability on principal companies, manufacturers along with operators. Absolute liability norms which are scattered in judgments and various laws or rules should be codified into law. Following is the table of demerits of the Bill and suggestions to remove the damage going to be caused by the Bill.

The Damage Bill	*To remove the Damage by the Bill*
S 1(3) Bill extends to Territorial Waters, Continental shelf, Maritime Zones, on board Ships and Aircrafts and artificial islands.	*With various limitations on liability provided in other sections, this extension becomes meaningless.*
s 2(f) defines nuclear damage in extensive terms. Covers human, property, economic, environmental losses and costs of preventive measures too.	*Because this definition covers almost all imaginable losses, it leaves no scope for any body to claim a relief or compensation. Good definition, but because of limitations and exemptions provided in other sections does not serve purpose..*
S 3: Atomic Energy Regulatory Board shall notify nuclear incident.	*It shall notify every incident causing damage and accident causing serious damage. Whether damage is substantial or not, there is a duty to compensate every loss. Word 'Accident' be added and Proviso be removed. Non-notification shall be considered as dereliction of duty and penal consequence should be prescribed*
S 4. Liability of operator.	*Liability of operator should be joint and several along with makers and suppliers including principal companies.*
S 4(2) Joint liability of all operators.	*Makers and suppliers should be added.*
S 5. Immunity of operators.	*5 (1)(ii) should be removed. This should be absolute liability where only possible exception is grave natural disaster.*
S 6. Capping liability	*Liability should commensurate the damage and compensate every loss. Penalty in proportion to guilt and compensation to wipe out the loss are basic and universal norms. A government elected for five years has no authority to sacrifice this right of future generations for benefit of a business company. Remove all limits on liability. Do not deny the rights of people by passing a new law.*
S 7. Liability of Central Government	*If a government, who is not supplier, operator, or investor can be made liable for the damage caused by accident, it can be called absolute liability which stricter than absolute liability recognized, where even Act of God or Civil war is no defence. Then why not this liability be extended to maker/supplier and operator?*

S 8 Insurance cover to limited liability	*When even Motor Vehicle Act imposes a statutory obligation on owners of vehicles to insure their 'unlimited' liability towards third parties, how can insurance of nuclear operator be limited?*
S 9: Claim Commissioners	*It should be called special nuclear claims courts and be made independent in function so that they decide liability and do justice. But the hands of these commissioners are tightened with limitations. Remove these limitations.*
S 15 Procedure for claims	*Prescribing such forms as mandatory will limit the rights of the victims. These forms should not be made compulsory though advised to be used.*
S 16(3) Order to restrain the operator who is likely to remove the property.	*It is not enough, it should be empowered to attach the property also.*
S 17 Right to recourse when contract is there	*Right to recourse is available whether there is contract or not. This provision limits the right unreasonably.*
S 17 b Operator can recover from supplier if damage is done due to willful act or gross negligence.	*This right should extend against manufacturer also.*
S 18: Right to claim extinguishes in 10 years	*There should not be such limit at all.*
S 20 Nuclear Damage Claims Commission	*Only bureaucrats cannot decide independently. It should consist of independent members from judiciary and people's agencies without bureaucrats because they are not trained to assess the claims.*
S 35 no injunction can be given by courts.	*If the Commission is not constituted with working judicial members, but filled with bureaucrats, the courts of law should have power to interfere to correct mistakes and wrongful or corrupt decisions.*
S 39 Offences and Penalties, 5 yrs imprisonment	*These offences are breach of order by Commission, not taking insurance cover for limited liability and not depositing amount in advance.* *Here criminal liability provision should be made: If the act leads to death of human being, operator shall be prosecuted for murder.*

S 40 Offences by Companies	*Principal company should be made liable jointly along with subsidiary company.*
S 47 protection for action taken in good faith	*Instead of this or along with this there should be a provision to impose liability for action taken not in good faith, or done without due care or caution, or negligently done.*

The author is Professor of Law at the National Academy of Legal Studies and Research (NALSAR), Hyderabad. Authored a number of books on law and journalism in English and Telegu

End Notes :

1. See: Sukla Sen's article: http://environmentpress.in/2010/04/02/the-civil-liability-for-nuclear-damage-bill-2010-some-tentative-observations/.
2. See http://indiacurrentaffairs.org/civil-nuclear-liability-bill-prefering-interests-of-us-companies-over-indian-people/
3. See: <http://www.business-standard.com/india/news//govt-open-to-raising-nuclear-liability-cap//388512
4. See <http://www.america.gov/st/texttrans-english/2009/July/20090720161943xjsnommis0.2136499.html
5. See: <http://news.bbc.co.uk/2/hi/business/8374050.stm
6. See: <http://www.deccanchronicle.com/national/pm-may-visit-us-april-n-summit-158
7. See the Abstract at <http://acdis.illinois.edu/newsarchive/newsitem-indiausrelationsfrombushtoobamanew-challenges.html
8. Don't Amend, Just Scrap the Bill, Praful Bidwai Opinion, Financial Chronicle, mydigitalfc.com, March 24, 2010
9. Decision in M.C. Mehta v Union of India (Sriram gas leak case) (1987) 1 SCC 395, AIR 1987 SC 965
10. Donoghue v Stevenson, 1932 AC 562
11. Union Carbide Corporation v Union of India, AIR 1990 SC 273
12. Union Carbide Corporation v Union of India, AIR 1992 SC 248
13. The Accused has been charged under Section 304A Indian Penal Code, Keshub Mahindra v State of Madhya Pradesh, 1996 (2) Scale 522)
14. Rylands v. Fletcher [1868] (19) LT
17. Sukla Sen's article: http://environmentpress.in/2010/04/02/the-civil-liability-for-nuclear-damage-bill-2010-some-tentative-observations/
18. Bhopal CJM court punished officials of Indian company UCIL, leaving out chief of UCC, on June 7, 2010.
19. See the Hindu news papers dated March 8 and April 1, 2010
20. Sidhartha Varadarajan, Government dilute nuclear Bill under US pressure, The Hindu, 10th June 2010
21. The bill lets nuclear equipment suppliers and designers off the hook, from The great nuclear folly by Praful Bidwai at <http://www.thedailystar.net/newDesign/news-details.php?nid=130882
22. The bill was approved by Union Cabinet on November 20, 2009<http://www.dailyindia.com/show/364588.php> or <http://www.kseboa.org/news/us-pressure-civil-nuclear-liability-bill-likely-in-parliament-session.html>
,23. See revised bill at http://www.cndpindia.org/download.php?view.36> and earlier version given in Nuclear Liability Law in Developing Countries - Indian Case by B. B. Singh at <http://www.cndpindia.org/e107_plugins/content/content.php?content.65
24. Prakash Nanda is a journalist and editorial consultant for Indian Defense Review, Right Angle column, published on March 30, 2010
25. See: <http://en.wikipedia.org/wiki/Price%E2%80%93Anderson_Nuclear_Industries_Indemnity_Act
26. News Report by Anil Sasi, Businessline, April 5, 2010
27. Praful Bidwai, A Flawed Bill, Frontline, March 27, April 9, 2010, http://www.flonnet.com/stories/20100409270709500.htm
28. Ibid
31- Ibid
32. Views From Abroad, http://pakobserver.net/detailnews.asp?id=32103, by Shobhan Saxena
31. Report on Civil Liability for Nuclear Damage Bill by Ajay Goyal, Anand Misra, Bikas Mohanty, Shaunak Kashyap, for Greenpeace, 2010, at page 37
32. Sukla Sen's article: http://environmentpress.in/2010/04/02/the-civil-liability-for-nuclear-damage-bill-2010-some-tentative-observations/
33. See: <http://www.iaea.org/Publications/Documents/Conventions/supcomp.htmll
34. Praful Bidwai, A Flawed Bill, Frontline, March 27, April 9, 2010, http://www.flonnet.com/stories/20100409270709500.htm
35.S ukla Sen's article: http://environmentpress.in/2010/04/02/the-civil-liability-for-nuclear-damage-bill-2010-some-tentative-observations/
36. Praful Bidwai, A Flawed Bill, Frontline, March 27, April 9, 2010
37. The Convention on Supplementary Compensation for Nuclear Damage: Catalyst for a Global Nuclear Liability Regime by Ben McRae at <http://www.nea.fr/law/nlb/nlb-79/017-035%20-%20Article%20Ben%20McRae.pdf>
38. Sidhartha Varadarajan, The Hindu, 1 April 2010

Membership Form

Annual Membership Fee:
Students Rs. 20, Individuals Rs. 100, Organisations Rs. 500

Name:

Organisation:

Address:

Phone:
e-mail:

Please mail your Draft/Cheque, drawn in favour of "peace-cndp", payable at New Delhi, to CNDP A-124/6, Katwaria Sarai, New Delhi 110 016

CNDP

The Coalition for Nuclear Disarmament and Peace (CNDP) is India's national network of over 200 organisations, including grassroots groups, mass movements and advocacy organisations, as well as individuals. Formed in November 2000, CNDP demands that India and Pakistan roll back their nuclear weapons programmes. Our emphasis:

- **No to further nuclear testing**
- **No to induction and deployment of nuclear weapons**
- **Yes to global and regional nuclear disarmament**

CNDP works to raise mass awareness through schools and colleges programmes, publications, audio and visual materials, and campaigning and lobbying at various levels.

CNDP membership is open to both individuals and organisations. So if you believe nuclear weapons are evil and peace is important, fill in the Membership Form!

For Private Circulation Only
Published from CNDP, A-124/6, Katwaria Sarai, New Delhi - 110 016, Telefax: 26517814
E-mail: cndpindia@gmail.com, Website: www.cndpindia.org
Editors: Ilina Sen, Anil Chaudhary, Sukla Sen