Talking Nukes

an education resource for people interested in nuclear issues and disarmament

Reaching Critical Will:
reaching for a critical mass of political will for nuclear disarmament.
a project of the Women's International League for Peace and Freedom
www.reachingcriticalwill.org

booklet & kit designed and compiled by Dimity Hawkins
in the booklet:
2. introduction
3. educating against the nuclear cycle
4. the world is waking up - quotes on disarmament
9. non-government contacts around the world

in the kit:
activities:
  - disarmament cross word
  - overhead: weapons & testing
  - overhead: disarmament - what do the people think?
  - posters & postcards

fact sheets:
  - **Weapons and Disarmament Background:**
    - nuclear weapons
    - weapons - who has what?
    - weapons testing
    - testing - from the Pacific to Nevada
    - national missile defence
    - 6 arguments against national missile defence
  - **Focussing on International Disarmament:**
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    - what is the NPT?
    - action plan for disarmament
  - **The Broader Nuclear Cycle:**
    - uranium - the key element
    - uranium mining
    - nuclear power
    - nuclear waste
In the 60 years or so that the nuclear industry has existed the impacts on our health, our environment and our collective psyche have been enormous.

The psychological impacts of nuclear weapons are well recognized. In the past half century, the world has seen a massive change in attitudes towards nuclear weapons and the disproportionate threat posed by a handful of countries who possess them. While nuclear weapon arsenals have been reduced in number by almost half of their Cold War levels, smaller arsenals have been upgraded in quality to wield an even larger destructive power.

Major international bodies such as the International Court of Justice have made unequivocal statements on the illegality of the use or threat of use of nuclear weapons. World-wide protests have seen nuclear weapons testing come to a virtual standstill in most areas of the world. Strong debates continue about the farcical notion of “deterrence” and its contribution to proliferation. Meanwhile, a strengthened role for non-government organizations has developed in discussions around non-proliferation and in developing models for peace keeping and conflict resolution.

Despite the assurances of industry and government, studies show that the threat of nuclear holocaust is still one of the most prevalent fears for young people today. Yet it is not simply the fear of a nuclear war that has impacted on our lives.

For people located at the “coal face” of the industry, whether living or working near a uranium mine, a nuclear power plant, or a radioactive waste dump, the industry has a very real daily impact, often with devastating health risks.

The issues associated with the nuclear industry are as far-reaching as any faced by humanity; debilitating communities, galvanizing debate and creating an atmosphere of fear which many find almost insurmountable.

Talking Nukes is an education toolbox for activists around the world. We provide basic fact sheets and background information on a range of nuclear issues for activists to use as tools in broader education work on the nuclear industry. This kit is by no means comprehensive, but intends to provide activists with a foundation from which they can begin to learn.

You will find all these and any updated fact sheets on the website of the Reaching Critical Will initiative: www.reachingcriticalwill.org.
Nuclear disarmament is not a radical idea. In fact nearly every government in the world has signed the Nuclear Non Proliferation Treaty calling for nuclear disarmament. Key figures, including politicians, military officials, and celebrities in those eight countries which possess nuclear weapons have made calls for total disarmament. Polls conducted around the world have shown that the majority of people see nuclear disarmament as a necessity.

Increasingly calls from around the world are being heard demanding real energy alternatives, an end to uranium mining and a halt on the production of more nuclear waste until a viable solution to the waste problem can be found.

The nuclear industry is deadly. Every stage of the nuclear cycle brings with it destruction and waste. Why then has this industry continued to exist despite unrelenting opposition to its practices? What is the greatest hindrance activists face when trying to educate about the nuclear age?

One key factor is fear.

The fear associated with the nuclear industry and their ultimate weapon, the nuclear bomb, has brought with it much misinformation. This has polarized politics and debate to such an extent that, at times, it has seemed impossible to sort fact from fiction.

In talking to anti-nuclear activists, many list fear as one of the key reasons they first became involved in the struggle against this deadly industry. Most of them will agree that the way they overcame this fear was to act, to inform themselves and others, and to demystify the monster that has overshadowed us for too long.

Another reason the nuclear industry has been able to maintain its stronghold on the world is that people see it as “too big”. Although at times the figures may seem overwhelming and the problems associated with it daunting, there are many practical and realistic contributions that individuals can make to effect the change necessary to see an end to this industry.

The first of these is education.

This means educating both yourself, as an individual member of society, and educating others.

The Women’s International League for Peace and Freedom through the Reaching Critical Will project will continue to find new ways to bring practical education resources to activists for use in the broader community. Educators for Social Responsibility in New York have initiated a project called “The Nuclear Weapons Education and Action Project”, to further address these issues. In addition, many of the groups listed later in this booklet have excellent resources on educating against the nuclear industry.

We hope that by providing you with some basic background information you will feel empowered to pass this knowledge on and thereby spread the word that this destructive industry is nearing the end of its day.
There is an increasing awareness of the impact of the nuclear industry on indigenous communities, on women, on workers, and on the health of all people. Scientists and military personnel are beginning to speak out about their role in the development of threat of the use of nuclear weapons. After many decades of fear and protest, the world is finally waking up to the promise of disarmament and peace and beginning to question whether the nuclear industry has any real benefits to society. In the following pages we have collected quotes from a diverse range of people highlighting the growing calls for disarmament and an examination of the role of nukes in their lives...

**scientists**

Scientists around the world are re-evaluating the role they play or are expected to play within the nuclear industry.

M.V. Ramana, Research Associate from the Center for Energy and Environmental Studies, Princeton University, explained his commitment to working for disarmament and peace:

"I obtained my Ph.D. in Physics. As a scientist, I was interested in the ways science influences and is influenced by society at large. Nuclear weapons are among the most devastating and the most dramatic of such influences and impacts. The history of the nuclear arms race over the past half-century bears testimony to the pressure from scientists to build the bomb and the authority they wielded. But there is another possibility. Scientists have opposed these developments in the past and I would like to be part of such a movement, not just as a scientist but as a human being."

**M.V. Ramana**


**survivors**

Many thousands of civilians were killed in the bombing of Hiroshima and Nagasaki in 1945. Thousands more have since died of radiation related illnesses. Survivors like Setsuko Thurlow, a young girl when the nuclear attack on Hiroshima occurred, are still active in trying to teach the world about the horrendous impact of these weapons.

"I must say I feel outraged at the small group of nuclear weapon decision makers who keep us, the people of the world, hostage to live in fear of possible nuclear holocaust...[This] mindset reflects no humanity, no morality, but self interest, power and domination."

**Setsuko Thurlow**

Hiroshima survivor

speaking at the Nuclear Truth Commission in New York, May 2000

**health**

Doctors and other health professionals are faced with the very real frustration of knowing that nuclear war is still one of the greatest threats to public health in the world today.

Co-President of the International Physicians for the Prevention of Nuclear War, Dr Mary-Wynne Ashford, explained what would happen if a nuclear bomb was dropped on her city in the West Coast of Canada and the impossibility of caring for the victims of such an attack.

"It is estimated that each doctor surviving a nuclear attack on a city would have 1800 severely injured and burned patients to see. If I saw one for ten minutes and worked 20 hours a day it would take two weeks to see each person for the first time – without being able to do anything for them. That would be assuming that I did not succumb to radiation sickness."

**Dr Mary-Wynne Ashford**

In recent years an increasing number of high level military strategists have gone public with their concerns about nuclear weapons. As he puts it, if the President of the United States had ever picked up the phone to order the launch of nuclear weapons, "that call would have come to me."

General Butler is one of the most high profile US military commanders to break ranks and speak out about his concerns regarding nuclear weapons and the hold they have over world politics. He explained his decision to speak out:

"... decades of thinking about and commanding US nuclear forces led me to the conclusion that nuclear weapons should be abolished. The reasons are many and complex, but simply stated: nuclear weapons provide no security; worse, they erode the very values we hold dear. How can democratic societies possibly reconcile with their democratic or moral principles the threat to incinerate tens or hundreds of millions of people?"

General Butler
source: IPPNW publication 'Is everything safe? Myths and Realities of Nuclear Disarmament.'

Similarly, Commander Rob Green of the British Royal Navy (retired) was a British naval commander who spoke out against nuclear weapons publicly after many years in the military.

"There definitely is a way back from the abyss towards which nuclear deterrence dogma is driving us. The key is to see nuclear disarmament as part of a process of building confidence and security, where nuclear weapons are a liability and a security problem."

Commander Rob Green (rtd)
source: 'The Naked Emperor: Debunking Nuclear Deterrence', by Commander Rob Green

Colin Powell, formerly the General who commanded the US forces in the Gulf War in the early 1990’s, is now the US Secretary of State in the George W. Bush administration. Despite his strong advocacy for the controversial National Missile Defence system, Colin Powell has spoken out strongly in the past against the use of nuclear weapons. In his book 'ASoldier's Way' Powell recounts incidents during the Gulf War which influenced these convictions;

" 'Let's not even think about nukes,' I said. 'You know we're not going to let that genie loose.'

'Of course not,' Cheney said. 'But take a look to be thorough and just out of curiosity.'

I told Tom Kelly to gather a handful of people [including General Lee Butler] in the most secure cell in the building to work out nuclear strike options. The results unnerved me. To do serious damage to just one armoured division dispersed in the desert would require a considerable number of small tactical nuclear weapons. I showed his analysis to Cheney and then had it destroyed. If I had not had any doubts before about the practicality of nukes in the field of battle, this report clinched them."

General Colin Powell
The Secretary General of the United Nations, Kofi Annan, emphasizes the importance of educating young people about nuclear disarmament and the possibilities for peace.

"Let us at least make sure that the next generation understands, better than ours has done, or at least mine has done, that human security is as much about governance, human rights, and social justice, as it is about arsenals. Let us make sure that they grasp the fundamental interdependence of a globalized world, and its implications for national politics. Let us help them find new and more productive uses for our wondrous human ingenuity...We cannot and should not shield them from the dark vision of a world in perpetual and universal terror. But we must offer them an effective, more hopeful vision – a vision of a world without weapons of mass destruction."

Kofi Annan
Secretary General of the United Nations
address to the conference "The Second Nuclear Age and the Academy"
John Jay College, City College of New York.

In all countries, you will see women taking an active role in disarmament work. At the NPT RevCon, a letter was presented to the Chair of the Conference, Ambassador Baali, which was signed by over 350 women and women’s organizations from over 50 countries around the world asking for the conference to take their role seriously in disarming nuclear weapons and promoting peace.

"The survival of this planet and all life on it requires a fundamental shift in the concept of peace and security. As we women pull up our chairs to finally sit at the international table, we will create such momentous change. Nuclear weapons and power through military force must no longer be at the head of the international table... The danger is that our generation of leaders will be remembered as the ones who could have, but didn’t, resolve the Cold War and learn its lessons, redefine human security, and put the nuclear threat behind us."

‘We, the Women of the World…’letter to NPT RevCon President
Source: News In Review 15 May 2000

Dr. Albert Schweitzer
Nobel Peace Laureate
1958, 1962

“Nuclear weapons are against international law and they have to be abolished.”

The former US President, Bill Clinton spoke out against nuclear proliferation in response to the announcement of nuclear tests by India and Pakistan, May 1998.

"I cannot believe that we are about to start the 21st century by having the Indian sub-continent repeat the mistakes of the 20th century, when we know it is not necessary to peace, to security, to prosperity, to national greatness, or to personal fulfillment."

former US President
Bill Clinton

Source: News In Review 15 May 2000
legal professionals

In a speech to the 2000 NPT RevCon, Peter Weiss, President of the International Association of Lawyers Against Nuclear Arms, stated,

"During the period of the cold war, when the two superpowers threatened each other with total elimination on a daily basis, one might – although one should not have – forgiven their leaders for not wishing to be bothered with legal considerations. But in today’s entirely different context, it is difficult to understand why the rule of law should not be taken seriously, particularly by those countries which never tire of proclaiming it."

Peter Weiss
NGO Presentations to the NPTRevCon, 3 May 2000

politicians

Many high level government officials and key politicians from countries around the world speak clearly in favour of nuclear disarmament through forums such as the Nuclear Non-Proliferation Treaty Review Conferences.

"What we are addressing here are the thousands of nuclear weapons that threaten an Armageddon, intentionally or by accident...The time to proceed, with serious intent, to rid the world of these weapons is now."

Mr. Brian Cowen
Minister for Foreign Affairs, Ireland
2000 NPT RevCon

indigenous people

From the mining of nuclear materials, to the testing of weapons and the dumping of the waste produced throughout the nuclear cycle, indigenous people are arguably the primary victims of the nuclear age.

"Indigenous peoples have borne the brunt of nuclearism through the nuclear fuel cycle. This begins with uranium mining on their own lands, often doing the mining themselves with little or no protection, to having nuclear tests carried out on their lands, and culminating in their lands being used as radioactive nuclear waste dumps. We recognize that we are not the only ones who have been affected by this process. Nevertheless, with 70 percent of the world's uranium resources located on the lands inhabited by Indigenous Peoples in Africa, Asia, Australia and North and South America, and a vast network of mining extraction of these uranium resources, fraught with racism and irresponsible environmental practices, the net result is a toxic legacy to indigenous communities of genocidal proportions."

Richard Salvador
Pacific Islands Association of NGOs
from Indigenous Perspectives section of the NGO Presentations to the NPT PrepCom 1999
Jacqui Katona, an Aboriginal woman working in Australia to protect indigenous rights, has actively protested the nuclear industry and the Australian governments’ plans for a new uranium mine on her family’s traditional land. She addressed the NPT RevCon in 2000:

"We want to see some reality injected into the debate for the NPT to ensure that people really understand that there is a starting point and there is an end point – between is disarmament – but there are lives of people who are affected at the point of extraction and production of uranium, right through to the storage of toxic waste."

Jacqui Katona
Executive Officer, Gundjehmi Aboriginal Corporation, Australia
source: extract from speech at the NGO launch of the NPT RevCon 25 April 2000

“Industrialized countries are all phasing out nuclear energy facilities or planning to do so, due to well informed community opposition in the north. The energy assistance offered to the global south by industrialized countries, under the pretext of honoring inalienable rights, is actually debt producing, and has the function of maintaining the wealth of large corporations from the north who have not converted their priorities or technology when faced with the hard economic facts of their industry.”

Felicity Hill
WILPF
from speech given at the NGO Presentations to the NPT PrepCom 1999

As the World Uranium Hearing held in Salzburg, Austria, in September 1992 concluded, "The territories of Indigenous peoples, impoverished developing countries, and the global commons are frequently targeted for storage or dumping of waste, thus compounding international injustice"

“For each ton of uranium oxide, several thousand tons of 'tailings' remain behind as low level radioactive waste; ... Wind and rain spread the carcinogenic dust to the surrounding water, air and soil, thus contaminating agricultural and animal meat by-products and foods for human consumption.

This legacy of environmental contamination has exposed hundreds of indigenous communities to serious environmental and human health hazards.”

Richard Salvador
Pacific Islands Association of NGOs
from Indigenous Perspectives section of the NGO Presentations to the NPT PrepCom 1999

“We say "NO radioactive dump in our ngura - in our country.” It’s strictly poison – we don’t want it.

The poison the Government is talking about will poison the land.

the Kupa Piti Kungka Tjuta
Declaration in 2001 from the Kupa Piti Kungka Tjuta, Australian Aboriginal women elders fighting against proposed national and international nuclear waste dumps on their land.
In the following pages we have supplied at least one contact option for each of the groups listed. For more detailed and regularly updated lists, please visit the NGO contact pages on the Reaching Critical Will website: www.reachingcriticalwill.org

US and UK organizations, listed alphabetically

A
Abolition 2000 Network
www.napf.org/abolition2000/index.html

Acronym Institute
London, UK
www.acronym.org.uk
Expertise in the Conference on Disarmament, the NPT process

B
BASIC (British American Security and Information Service)
Washington, DC
www.basicint.org
Expertise in the NPT process, European Security issues, British and American nuclear weapons

C
Campaign to Reduce Nuclear Danger
Washington, DC
www.crnnd.org
Expertise as a non-partisan alliance of 17 of leading nuclear disarmament and non-proliferation organizations working for a practical, step-by-step program to reduce the dangers of weapons of mass destruction.

G
GRACE (Global Resource Center for the Environment)
New York, NY
www.gracelinks.org

I
International Physicians for the Prevention of Nuclear War and Physicians for Social Responsibility
www.psr.org
www.ippnw.org
Expertise in health effects of nuclear weapons, Model Nuclear Weapons Convention

L
Lawyers Committee on Nuclear Policy
New York, NY
www.lcnp.org
Expertise on the World Court ruling on nuclear weapons, international law, US program of stockpile stewardship

N
NGO Committee on Disarmament
777 UN Plaza, 3rd Floor
New York, NY 10017
(212) 687-5340
www.igc.org/disarm
disarmtimes@igc.org
Expertise in the UN, disarmament processes. Liaison with the UN Secretariat, can arrange UN accreditation to the NPT Review Conference through the NGO Committee

Nuclear Age Peace Foundation
Santa Barbara, California
www.napf.org
Expertise in the Abolition 2000 network, global peacemaking efforts,

T
Tri-Valley CAREs (Communities Against a Radioactive Environment)
Livermore, California
tel: +1 (925) 443-7148
www.igc.org/tvc
marylia@igc.org
Expertise in US nuclear weapons design, new nuclear weapons research, Lawrence Livermore National Laboratory, NEPA process

V
VERTIC (Verification, Research, Training and Information Centre)
Baird House 15/17 St. Cross Street
London EC1N 8UW, UK
tel: +44 0 20 74406960
fax: +44 0 20 7242 3266
www.fhit.org/vertic
o.meier@vertic.org
Expertise in nuclear weapons disarmament verification
W

Western States Legal Foundation
Oakland, California
ws@earthlink.net
Expertise in US nuclear weapons policy, stockpile stewardship, international law and nuclear weapons

WILPF UN Office
777 UN Plaza, 6th Floor
New York, NY 10017
tel/fax: +1 (212) 682-1265
www.wilpfun.ch
 wilpfun@igc.org
Expertise in nuclear weapons and disarmament, women's issues, UN Security Council,

WILPF US Section
1231 Race Street
Philadelphia, PA
tel/fax: +1 (215) 563-7110
www.wilpf.org
Expertise in disarmament issues, women's issues

WILPF New York Metro Branch
339 Lafayette Street
New York, NY 10012
tel/fax: +1 (212) 533-2125
www.wilpfnymetro.org
wilpfun@wilpfnymetro.org
Expertise in nuclear weapons testing, women's issues

Other countries listed in order alphabetically:

Australia
Friends of the Earth Australia
PO Box 222,
Fitzroy VIC 3065
Tel: 61-3-9419 8700
Fax: 61-3- 9416 2081
http://www.foe.org.au

Medical Association for Prevention of War (MAPW)
PO Box 197
O'Connor ACT 2602
Tel: 61-2-6262-9345
Fax: 61-02[6262-9346
http://www.mapw.au.nu

Australian Conservation Foundation (ACF)
340 Gore Street
Fitzroy VIC 3065
Tel: 61-3-9416 1166
http://acfonline.org.au

People for Nuclear Disarmament (Western Australia)
33 Woodside St.
Mt. Lawley, Western Australia 6050
Tel: 61-8-9272-4252

Scientists for Global Responsibility
PO Box 370
Lane Cove NSW 2066
Tel: 61-2-9247-6261
Fax: 61-2-9351-3329
http://www.hotkey.net.au/~sgr

Australian Section of the Women's International League for Peace and Freedom (WILPF)
GPO Box 2094
Adelaide, SA 5001
Tel: 61-8232-6334
Fax: 61-8-8232-6335

Austria
Austrian Information-Center for Security Policy and Arms Control
Georg Schoefbaenker
Schratzstrasse 8, 4040 Linz
Tel: 43-732-71-09-42

Belgium
Association Medicale pour la Prevention de la Guerre Nucleaire
C/o Me J. Vankeerbergen Av. Du Pesage 44,
Bte 1, B-1050 Bruxelles
Tel: 32-2-649-43-46
ampgn.firket@skynet.be

Centre for European Security and Disarmament (Centre de Sécurité Européenne et Désarmement)
115 rue Stévin 1000 Brussels
Tel: 32-2-230-07-32
Fax: 32-2-230-24-67
http://www.cesd.org

For Mother Earth International Office
p.a. Gents Ecologisch Centrum
Maria-Hendrikaplein 5-6 9000 Gent
Tel: 32-9-233-73-39
Fax: 32-9-233-73-02
http://www.motherearth.org/

Pax Christi International
Rue Du Vieux Marche Aux Grains 21
1000 Bruxelles
Tel: 2-502-5550
Fax: 2-502-4626

Bulgaria
Za Zeminta (For the Earth)
P.O. Box 975
Sofia 1000
Tel/fax: 359-2-963-3125
Canada
The Canadian Network to Abolish Nuclear Weapons (CNANW), which was formed in 1996 to support Abolition 2000, contains 17 member groups:
Artistes pour la Paix
c/o M. Paul Klopstock
C.P. 867, Succursale C
Montréal (Québec) H2L4L6
Tel: 514-284-2000
Fax: 514-284-2000

Canadian Coalition for Nuclear Responsibility
Box 236, Station Snowdon
Montréal (Québec) H3X3T4
Tel: 514-489-5118
Fax: 514-489-5118

Canadian Peace Alliance
5-555 Bloor Street West,
Toronto ON M5S 1Y6
Tel: 416-588-5555
Fax: 416-588-5556

Canadian Pugwash Group
Ottwa ON K1A 0A6/OR8923 Strathearn Dr
Edmonton AB T6C 4C8
Tel: 613-943-9559 (Ottawa)
Tel: 780-466-8072 (Edmonton)

Centre de Ressources sur la non-violence
c/o M. Jacques Boucher 6648
St-Denis
Montréal, Québec H2S 2R9
Tel: 514-844-0484
Fax: 514-844-0113
(new fax and phone numbers after 1 November 1999)

End the Arms Race
405-825 Granville Street,
Vancouver BC V6Z 1K9
Tel: 604-687-3223
Fax: 604-687-3277
http://www.peacewire.org/

Lawyers for Social Responsibility
5120 Carney Road NW
Calgary AB T2L 1G2
Tel: 403-282-8260
Fax: 403-289-4272

Peace Fund Canada
206 - 145 Spruce Street
Ottawa ON K1R 6P
Tel: 613-232-0647
Fax: 613-563-0017

Physics for Global Survival (Canada)
208 - 145 Spruce Street
Ottawa ON K1R 6P1
Tel: 613-233-1982
Fax: 613-233-9-28

Project Ploughshares
Conrad Grebel College
Waterloo ON N2L 3G6
Tel: 519-888-6451
Fax: 519-885-0806

Science for Peace
University College, University of Toronto
Toronto ON M5S 1A1
Tel: 416-406-2486 or 416-978-3606
Fax: 416-978-5848

United Nations Association in Canada
900 - 130 Slater Street
Ottawa ON K1P 6R2
Tel: 613-232-5751 x223
Fax: 613-563-2455

Veterans Against Nuclear Arms
240 Holyrook Road North
Vancouver BC V7N 2R5
Tel: 604-985-7147
Fax: 604-985-1260

Voice of Women
203 - 761 Queen Street
West Toronto ON
M6J 1G1
Tel: 416-603-7915
Fax: 416-603-7916

Women’s International League for Peace & Freedom
4020 Lions Avenue North,
Vancouver BC V7R 3S3

World Federalists of Canada
207 - 145 Spruce Street
Ottawa ON K1R 6P1
Tel: 613-232-0647
Fax: 613-563-0017

Denmark
Danish Section of IPPNW
Larsjesstraede 13, 2. Th.
Dk-1451 Copenhagen
Tel: 45-33-15-82-99
Fax: 45-33-93-77-21

Peace Movement of Esbjerg
Willemoesegade 29
Dk-6700 Esbjerg
Tel/fax: 45-7518-1562
http://www.peaceweb.dk
Liaison Committee for Peace and Security (1997)
Samarbeidskomiteen For Fred og Sikkerhed
Pilegards Vænge 62
2635 Ishøj
Tel/fax: 45-4373-1262
www.fred.dk/samfred/

Fiji
Pacific Concerns Resource Centre (PCRC)
83 Amy Street, Toorak,
Private Mail Bag, Suva
Tel: 679-304649
Fax: 679-304755

Finland
Committee of 100 in Finland
Suomen Sadankomitealiitto;
De Hundras Komité
Physicians for Social Responsibility
Laakarin sosiaalinen vastuu
PO Box 722 (Nervanderinaiü10
00101 Helsinki
Tel: 040-515-0512
Telex: 358-9-45410141

France
Appel des Cent pour la Paix
17-19 Place de l'Argonne
75019 Paris
Tel: 33-01-42-09-2378
Fax: 33-01-42-09-2350
http://www.paix2000.org

German Section of IPPNW
Korte Str. 10
D-10967 Berlin
Tel: 49-30-693-0244 or 01-71-4-56-8510
Fax: 49-30-693-8166
http://www.ippnw.de/

French Peace Movement;
Mouvement de la Paix
Fax:33-01-6002-4121

IPPNW-France
Association Francaise des Medecins pour
La Prévention de la Guerre Nucléaire
5 rue Las Cases - 75007 Paris
Tel: 33-01-64-32-6972
Fax: 33-01-60-96-3095
http://perso.club-internet.fr/amfpgn/

Deutscher Friedensrat
Platz der Vereinten nationen 7
D-10249 Berlin
Tel/Fax: 49-30-426-5290

Germany
BITS - Berlin Information-Center for Transatlantic Security
Rykestr.13
10405 Berlin
Tel: 49-30-441-0220
Fax: 49-30-441-0221

Deutsche Friedensgesellschaft - Vereinigte Kriegsdienstverweigerer DFG-VK
Schwanenstr.16
42551 Velbert
Tel: 49-2051-4210
http://www.dfg-vk.de

IPPNW-France
Association Francaise des Medecins pour
La Prévention de la Guerre Nucléaire
5 rue Las Cases - 75007 Paris
Tel: 33-01-64-32-6972
Fax: 33-01-60-96-3095
http://perso.club-internet.fr/amfpgn/

Centre De Rechercheres Sur La Prevention Des Conflits (C.D.R.P.C)
187 Montee De Choulans 69005 Lyon
Tel: 33-04-78-36-9303
Fax: 33-04-78-36-3683
http://www.obsarm.org

Deutsch Friedensrat
Platz der Vereinten nationen 7
D-10249 Berlin
Tel/Fax: 49-30-426-5290

French Peace Movement;
Mouvement de la Paix
Fax:33-01-6002-4121

IPPNW-France
Association Francaise des Medecins pour
La Prévention de la Guerre Nucléaire
5 rue Las Cases - 75007 Paris
Tel: 33-01-64-32-6972
Fax: 33-01-60-96-3095
http://perso.club-internet.fr/amfpgn/

Centre De Rechercheres Sur La Prevention Des Conflits (C.D.R.P.C)
187 Montee De Choulans 69005 Lyon
Tel: 33-04-78-36-9303
Fax: 33-04-78-36-3683
http://www.obsarm.org

Greenpeace France
21 Rue Godot de Mauroy
75009 Paris

Stop Essais
71250 Mazille
Tel: 03-85-50-8237 or 03-85-50-8216
Fax: 33-01-6002-4121

Hungary
Alba Kör
Budapest, V.Balaton u. 25.
Tel:132-6109
Fax: 111-7855
http://freeside.elte.hu/albakor

India
Institute for total Revolution
Vidyalaya Vedchhidi st.
Surat, Gujarat, 394641
Tel: 91-262522074
Lokayan
13 Alipur Road
New Delhi 110054
Tel: 91-11-294-0154
Fax: 91-39051375 or 91-39-69380

Movement in India for Nuclear Disarmament
C/o Delhi Science Forum
B1 Local Shopping Centre, lind Floor, J Block
Saket, New Delhi 11017
Tel: 686-2716 or 652-4323
Fax: 686-2716
http://www.angelfire.com/mi/MIND123

Pakistan-India People’s Forum for Peace and Democracy
K14 Green Park Extension 1st Floor
New Delhi 110106
Tel: 91-11-616-3830 or 91-11-619-6640
Fax: 91-11-619-8042

Indonesia
National network Forum of the Indonesian Anti-Nuclear Society
Jl. Tentara Pelajar 43 c
Bibis Kulon, Solo
Tel/Fax: 62-271-639-839

Israel
Women’s International League for Peace and Freedom
Israel
P.O. Box 3069
Bat Yam 59130
Tel:972-3-658-9983
Fax: 972-3-508-2848

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Associazone Italiana Medicina per la Prevenzione della Guerra Nucleare
Via Bari 4
64029 Silvi Marina
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Fax: 39-085-949-2232

Unione Scienziati per il Disarmo
Piazza Piola 11
20131 Milano
Tel: 39-02-236-7905
Fax: 39-02-239-2480
http://homes.dsi.unimi.it/~uspid

Landau Network - Centro Volta
Villa Olmo, Via Cantononi 1
22100 Como
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Fax: 39-031-573395
http://www.mi/infm.it/~landnet

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Hidankyo/International Section
Gable Bldg. Room 902, 1-3-5
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Minato-ku, Tokyo, 105-0012
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Fax: 81-3-343-2113
http://www.ne.jp/asahi/hidankyo/nihon/

Hiroshima Peace Institute
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Hiroshima Mitsui Bldg 12th Fl.
Hiroshima 730-0051
Tel: 082-544-7570
Fax: 082-544-7573

Japan Congress Against A- and H-Bombs (Gensuikin)
Hitotsubashi KI Bldg 5F, 3-17-11
Konda-Jinbo-cho Chiyoda-ku
Tokyo, 101-0051
Tel: 81-3-3222-1091
Fax: 81-3-3222-1093
http://www.jca.apc.org/gensuikin

Japan Council Against A- and H-Bombs (Gensuikyo)
Heiwa to Rodo Kaikan Shinbashi 6-19-23, Minato-ku,
105-0004, Tokyo
Tel: 81-3-3436-3205

Japanese Lawyers for the Abolition of Nuclear Arms
Nishi- waseda - Shinjuku,
Tokyo 169-50
Tel: 81-3-3232-1613
Fax: 81-3-3232-9493

No Nukes Asia Forum
1-7-28 Katsuyama-kita, Ikuno-Ku
Osaka-shi 557
Tel/Fax: 81-6-6712-9955
http://www.jca.apc.org/nnaf/

Pacific Campaign for Disarmament and Security
International Office
3-3-1 Minowa-cho Kohoku-ku
Yokohama
Tel: 81-45-563 5101
Fax: 81-45-563-9907

Peace Depot/Pacific Campaign for Disarmament & Security (PCDS)
Hiyoshi Guryune 102 Minowa 3-3-1, Minato Kita-ku
Yokohama, 223-0051
Tel: 81-45-563-5101
Fax: 81-45-563-9907
http://www.jca.apc.org/peacedepot/

Peace Chain Reaction
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Tokyo, 161-0033
Tel: 81-3-5988-5561
Fax: 81-3-5988-5562
Mobile: 81-90-8310-5370
World Conference of Mayors for Peace through Inter-city Solidarity
Headquarters: 1-2 Nakajima-cho, Naka-ku
Hiroshima 730-0811
Tel: 81-82-241-2352
Fax: 81-82-242-7452

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Malaysian Physicians for the Prevention of Nuclear War
17 Jalan Tanjung (5/4)
46000 Petaling Jaya
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Fax: 3-755-0178

The Netherlands
Anti-Militaristes Onderzoekskollectief (AMOK)
(Dutch anti-militarism collective)
3572 EC Utrecht
Tel: 31-30-271-4376
Fax: 31-30-271-4759

Dutch Anti-Nuclear Coalition
P/a Herenstraat 9
6708 MD Wageningen
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Fax: 03-17-42-3588

Greenpeace International
Keizersgracht 176
1016 DW Amsterdam
Tel: 31-20-523-6222
Fax: 31-20-523-6200
http://www.greenpeace.org

International Association of Lawyers Against Nuclear Arms (1988)
Anna Paulownastraat 103 2518 BC
The Hague
Tel: 31-70-363-484
Fax: 31-70-345-5951
http://www.ddh.nl/org/ialana

International Fellowship of Reconciliation (1919)
Spoortastraat 38
1815 BK Alkmaar
Tel: 31-72-512-3014
Fax: 31-72-515-1102
http://www.ifor.org/

New Zealand
Aotearoa/New Zealand Foundation for Peace Studies
Disarmament and Security Center
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Christchurch, Aotearoa/New Zealand
Tel/Fax: 64-33-348-1353

Campaign for Nuclear Disarmament, Wellington, NZ
P.O. Box 9314
Wellington, Aotearoa/New Zealand
Tel: 64-04-382-8129
Fax: 64-04-382-8176

International Physicians for the Prevention of Nuclear War (IPPNW)/New Zealand
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Wellington School of Medicine
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Tel: 64-4-389-5725

New Zealand Nuclear-Free Peacemaking Association
Box 18541
Christchurch

Peace Movement Aotearoa/Aotearoa-NZ
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Wellington, Aotearoa/New Zealand
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Fax: 64-4-382-8173
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N-0505 Oslo
Nordregate 2
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Fax: 47-22-38-3862
http://www.bellona.no/

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0181 Oslo
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Fax: 4722-11-1886

International Peace Bureau
Oslo Office Norwegian Peace Alliance
Storgy. 33 C/4
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Norwegian Physicians Against Nuclear War
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Citizen’s Peace Committee
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CPC Secretariat
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Pakistan Doctors for Peace and Development
PMA House
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Karachi, 74400, Pakistan

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Philippines Physicians for the Prevention of Nuclear War Medical Action Group, Inc.
51-H Mother Ignacia Avenue
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fax: 63-2-371-3069

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tel/fax: 95-278-4642, 776-6546

Center for Arms Control, Energy and Environmental Studies
Moscow Institute of Physics and Technology
9 Institutiski Dolgoprudny
Moscow 141700
tel/fax: 7-95-408-6381
www.armscontrol.ru

Center for Russian Environmental Policy
Nevada Semipalatinsk Movement
Russian Academy of Sciences
Moscow 117312
tel: 7-95-9382209

Civic Peace
Degtiarny per., 15 str.
Moscow 103050
tel: 7-95-299-6342

PIR Center
P.O. Box 17
Moscow 117454
tel: 7-95-335-1955
fax: 7-503-234-9558
http://www.pircenter.org/english/address.htm

Russian Peace Foundation
Moscow 119889
tel: 7-95-202-2442
fax: 7-95-202-9648

Russian Physicians for the Prevention of Nuclear War
Ul Solyanka 14
Moscow 109801
tel: 7-95-298-2146
fax: 7-95-298 2161

Saint Petersberg Peace Council
21 Fontanka
St. Petersberg 191011
tel: 812-314-8321
fax: 812-314-8331
Across

1. The NPT refers to the disarmament of _______ _______.
2. What was the popular name used to describe the period of massive nuclear weapons proliferation between the end of World War II and the early 1990's?
3. The only four governments of the world who have not signed the NPT are India, Cuba, Israel and _______.
4. _______ material is required to make a nuclear bomb.
5. To fully accept the principles of an international treaty or covenant, a state party must _______ it.
6. What is the ultimate aim of all governments who are parties to the NPT?
7. One of the other key disarmament treaties in international law is the Anti-________ Missile Treaty.
8. Which body oversees the formation and review of international treaties? The United _______.
9. Women's International League for _____ and Freedom was established in 1915, at the height of the 'Great War'.
10. Nuclear weapons which use short range missile systems.
11. On the 26 April 1986, this European nuclear facility had a catastrophic meltdown.
12. Governments often acquire nuclear weapons for national _______ reasons.
13. On 6 August 1945, the Japanese town of _______ was bombed by the United States, using a nuclear weapon.

Down

1. This is the state where USA still most frequently tests their weapons.
2. What is the acronym for the Comprehensive Test Ban Treaty?
3. The NPT stands for the Nuclear Non-________ Treaty.
4. This was one of the areas within Australia that the British government used in the 1950's and 1960's to test their nuclear weapons.
5. What is the name for an international instrument which can be signed and ratified by governments through the United Nations?
6. The Nuclear Weapons States (NWS) as defined in the NPT are: Russia, the United States of America, _______, Britain and China.
7. NAM stands for the Non-________ Movement.
8. NAC stands for New Agenda _______.
9. What sort of flower is used to symbolize the movement against nuclear weapons? _______ flower.
Across

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# Weapons & Tests

## Weapons:

### Nuclear Weapon States:

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated Weapons</th>
<th>Tests Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>~12,070</td>
<td>1030</td>
</tr>
<tr>
<td>Russia</td>
<td>~22,500</td>
<td>715</td>
</tr>
<tr>
<td>China</td>
<td>~400</td>
<td>45</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>260</td>
<td>45</td>
</tr>
<tr>
<td>France</td>
<td>450</td>
<td>210</td>
</tr>
</tbody>
</table>

### Nuclear Weapon Capable States:

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated Weapons</th>
<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israel</td>
<td>100 — 200</td>
<td>not known</td>
</tr>
<tr>
<td>India</td>
<td>65</td>
<td>6</td>
</tr>
<tr>
<td>Pakistan</td>
<td>39</td>
<td>6</td>
</tr>
</tbody>
</table>

## Tests:

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<table>
<thead>
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<th>Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israel</td>
<td>not known</td>
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<tr>
<td>India</td>
<td>6</td>
</tr>
<tr>
<td>Pakistan</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note: while there are reportedly a number of other countries pursuing nuclear weapon programmes, to date there is insufficient evidence to conclude that any countries other than those listed here have fulfilled this goal.

* Refer to handouts on nuclear weapons and nuclear testing in the Reaching Critical Will “Talking Nukes” education kit for further details and sources for these figures.*
disarmament — what do the people think?

**Canada**
Do you want your governments to lead negotiations for a Nuclear Weapons Convention?

- **Agree:** 92%
- **Disagree:** 7%
- **Undecided:** 1%

**United States**
Do you want your government to negotiate a Nuclear Weapons Convention?

- **Agree:** 87%
- **Disagree:** 10%
- **Undecided:** 3%

**United Kingdom**
Do you want your government to negotiate a Nuclear Weapons Convention?

- **Agree:** 87%
- **Disagree:** 11%
- **Undecided:** 2%

**Germany**
Do you think that any country with nuclear weapons should abolish them?

- **Agree:** 87%
- **Disagree:** 9%
- **Undecided:** 4%

**Australia**
Do you want your government to help negotiate a Nuclear Weapons Convention?

- **Agree:** 92%
- **Disagree:** 7%
- **Undecided:** 1%

**Russia**
Do you think that any country with nuclear weapons should abolish them, or are they necessary in order to protect the country?

- **Abolish:** 61%
- **Are necessary:** 31%
- **Undecided:** 8%

**Belgium**
Do you agree that Belgium should work actively for a ban on nuclear weapons?

- **Agree:** 72%
- **Disagree:** 10%
- **Undecided:** 18%

**Japan**
Do you think that any country with nuclear weapons should abolish them, or are they necessary in order to protect the country?

- **Abolish:** 78%
- **Are necessary:** 18%
- **Undecided:** 4%

**Norway**
Do you think Norway should work actively for a ban on nuclear weapons?

- **Agree:** 92%
- **Disagree:** 5%
- **Undecided:** 3%

Information source:
Nuclear weapons have been with us for a short time and yet have an incredible hold over international relations and the security of humanity.

In the midst of World War Two, scientists involved in the Manhattan Project discovered that enriched uranium and plutonium were the key to developing nuclear weapons. This was ‘tested’ to terrible effect on August 6, 1945, when a uranium bomb nicknamed Little Boy was dropped on the Japanese city of Hiroshima. Three days later, the USA dropped another bomb, this time made from plutonium and nicknamed Fat Man on the city of Nagasaki, also in Japan. These two bomb attacks killed at least 100,000 people immediately, with a further 100-150,000 people dying from radiation illnesses in the subsequent years.

The average destructive force of today’s nuclear weapons is equal to between 8 — 40 times the power of the weapons dropped on Hiroshima and Nagasaki in 1945.

It is estimated that it would require only some 400 nuclear weapons to create a nuclear winter. Yet even just an ‘average’ sized nuclear weapon would kill everything within a radius of several square miles, with radiation exposure continuing to kill people and the environment over a much greater area and longer time.

WHO HAS NUCLEAR WEAPONS?

There are only a small handful of nations who possess nuclear weapons, though there is much speculation about other countries who are trying to develop them.

The countries which are known to have nuclear weapons are:
- The United States of America
- Russia
- The United Kingdom
- France
- China
- Israel
- India
- Pakistan

The USA and Russia maintain the biggest arsenals of nuclear weapons (between them they have around 34,570 of the world’s estimated 35,984 weapons).

In addition, both Russia and the USA have over 2,000 nuclear weapons on constant hair-trigger alert — this means they are able to launch a nuclear attack within a matter of minutes.

Both countries also maintain policies of launch-on-warning, which means that they are prepared to launch their nuclear-armed missiles before the missiles from the other side land on their territory. Keeping nuclear weapons on high alert and using launch-on-warning strategies increase the risks of accidental nuclear war.

NUCLEAR DISARMAMENT — REQUIRED UNDER INTERNATIONAL LAW.

Nuclear disarmament is required by the terms of the 1970 Non-Proliferation Treaty. This obligation was confirmed by the World Court decision in 1996 which stated:

“There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.”

At the 2000 Non-Proliferation Treaty Review Conference, the nuclear weapons states agreed to an “unequivocal undertaking...to accomplish the total elimination of their nuclear arsenals”. The individual policies of the nuclear weapons states, however, do not yet conform to this obligation. See the factsheet “What is the NPT” for more information.

---

Information sources:
- Coalition to Reduce Nuclear Dangers: www.crnd.org

“Slavery was accepted in much the same way as nuclear weapons now are – by the establishments of a small group of predominantly Western/Northern nations and their allies.”

Rob Green
British Royal Navy Commander R’td
from his book The Naked Nuclear Emperor
There are currently around 36,000 nuclear weapons in the world’s arsenals, primarily in those of the five Nuclear Weapon States. This is estimated to be 2,667 times the firepower experienced in the entire six years of World War II*.

At the height of the Cold War there were around 65,000 nuclear weapons.

The obvious decrease in the quantity of nuclear weapons is partly a result of the commitment of governments and people around the world to work towards complete disarmament. Unfortunately, however, these reductions are also the result of technical developments in nuclear weapons production, which result in many earlier models being rendered less "efficient" or potent, thereby becoming redundant. The motivations for governments to disarm are not always obvious to them. With the large amount of weapons still in existence some would argue that we are no better off than in the darkest days of the Cold War.

Current nuclear weapons are distributed as follows:

**NUCLEAR WEAPONS STATES:**

**UNITED STATES**
~ 12,070 weapons**
(of these, 7,450 are strategic nuclear weapons)

**RUSSIA**
~ 22,500 weapons**
(of these, 6,240 are strategic weapons)

**CHINA**
~ 400 weapons**
(of these, ~20+ are strategic weapons)

**UNITED KINGDOM**
260 weapons**
(of these, 160 are strategic weapons)

**FRANCE**
450 weapons**
(of these, 429 are strategic weapons)

**NUCLEAR WEAPONS CAPABLE STATES:**

**ISRAEL**
100-200 weapons •*

**INDIA**
65 weapons (median approximates only) •*

**PAKISTAN**
39 weapons (median approximates only) •*

Point to note:
Strategic nuclear weapons use long range missile systems
Tactical nuclear weapons use short range missile systems

References & Information sources:
* ‘Is Everything Secure? Myths and Realities of Nuclear Disarmament’. IPPNW publication 1998
** data provided by Coalition to Reduce Nuclear Dangers – last updated February 1999 : www.clw.org/coalition/nukelev.htm
•* • approximates are those of the Federation of American Scientists: http://www.fas.org/nuke/guide/israel/index.html
** • approximates are those of ISIS in the report titled: India’s and Pakistan's Fissile Material and Nuclear Weapons Inventories, end of 1999 by David Albright http://www.isis-online.org/
When Colin Powell was nominated to be Secretary of State for the United States Bush administration in late 2000, he immediately stated the intention for the administration to reopen implementation of the National Missile Defence (NMD) system. “We will stand strong with our friends and allies against those nations that pursue weapons of mass destruction, that practice terrorism,” he said. “We will not be afraid of them. We will not be frightened by them. We will meet them. We will match them. We will contend with them. We will defend our interests from a position of strength.”

But for a country that has by far the strongest nuclear and military capability in the world, what exactly is the threat that NMD is preparing for?

According to George Lewis, associate director of Security Studies at MIT,

“the (NMD) system is intended to protect the USA from limited attacks by intercontinental ballistic missiles (ICBMs) armed with nuclear, biological, or chemical warheads. Such attacks, ranging from a few to a few tens of missiles, fall into three categories: a small accidental or unauthorized launch from Russia, a deliberate or unauthorized attack from China, or a deliberate attack from a hostile emerging missile state that might acquire ICBMs. This last threat — focused on Iran, Iraq, and North Korea — has emerged as the primary argument for a near-term NMD deployment.

Although it is now technically feasible to “hit a bullet with a bullet” on the test range, adversaries would be able to take straightforward steps to defeat this system, not only preventing it from achieving the high levels of effectiveness claimed for it, but also precluding any significant security benefits. Worse still, deploying such a system would open a Pandora’s box of problems for the United States, unravelling decades of efforts to reduce U.S. and Russian nuclear stockpiles and to limit proliferation of nuclear weapons and ballistic missiles worldwide.”

There has been widespread international criticism of the proposed defence system, with warnings from Russia, China and some US allies that the system could be a catalyst for a new nuclear arms race.

The deployment of NMD will make it much harder, if not impossible, to achieve vital arms control objectives.

In the Nuclear Non-Proliferation Treaty 2000 Review Conference, the US and all nuclear weapon states made an unequivocal commitment to eliminate their nuclear arsenals. This commitment, and treaties such as the Non-Proliferation Treaty and the Anti-Ballistic Missile Treaty are all in jeopardy if the NMD system is to proceed.

National Missile Defence in its current form has failed in two out of three operational tests (conducted under the Clinton administration) and has been critiqued by the US scientific establishment as fundamentally flawed.

Over 354 major NGOs representing millions of people worldwide have publicly stated their objections to the NMD system. NMD has also drawn criticism from a range of other influential groups, including 50 United States Nobel prize winners in physics, religious leaders and high-ranking military personnel.

NMD is a scheme that is unlikely to work against a threat that may never materialize — a threat that is better dealt with in other ways. It will cost billions which are better spent elsewhere, and will make further progress toward the total and unequivocal elimination of nuclear weapons much more difficult, if not impossible.

According to an article by Stephen Young of the Coalition to Reduce Nuclear Dangers,

“The US has shown that it is possible to ‘hit a bullet with a bullet’ but not that this can be done reliably in a real-world system.”

Is it worth 120 billion dollars to deploy a system that is ultimately futile and will be responsible for nothing more than international insecurity?

References & Information sources:
* For the latest information on how the proposed NMD system works and critiques against it, please go to: www.crnd.org
* from speech given during the announcement of the nomination of Colin Powell to the position of Secretary of State — AAP — article 18 December 2000
** George Lewis, associate director of Security Studies at MIT, discusses the negative impact of NMD on regional stability and international law.
http://www.findarticles.com/m1181/1999_Winter/58517720/p1/article.jhtml
National Missile Defense (NMD) is essentially the sequel to the Strategic Defense Initiative, also known as ‘Star Wars’. The proposed missile shield, which would intercept any incoming missiles to the United States, is not only unnecessary and technologically faulty, but has the potential to create an arms race reminiscent of the Cold War. This proposal contradicts the agreement made by all five nuclear weapon states for the ‘total and unequivocal’ elimination of their nuclear arsenals, as stated in the final document of the 2000 NPT Review Conference and violates the spirit and letter of the 1972 Anti-Ballistic Missile Treaty.

HISTORY
The history surrounding National Missile Defense is one that began in 1983 when Ronald Reagan launched The Strategic Defense Initiative in order to create a “perfect shield” over the United States from Russian intercontinental ballistic missiles armed with nuclear warheads. Prohibitive cost and failure of the technology proved to make the initiative unattainable, prompting President Reagan to give up the project after the fall of the Soviet Union. In 1996, an election year, President Clinton revitalized NMD efforts by proposing a six-year contract: three years to research and three years to build the NMD system. On July 22, 1999, President Clinton signed the National Missile Defense Act which commits to deploying NMD “as soon as technologically possible.” According to the propaganda, this decision was made in an effort to protect the United States from ballistic missile attacks by so-called “rogue states,” although many wonder if huge military corporations had any part in the suggestion to re-launch Star Wars. The final decision to deploy will come at the end of this year, after considering three key criteria: cost, threat, and the views of the international community.

TESTING HISTORY
The first test to intercept a target warhead was made on October 2, 1999, and was considered successful, although, it consisted of only one major component of the eventual system. The test was carried out under the most ideal conditions. In fact, testing took place against an “unrealistically cooperative target”. According to an article by William D. Hartung and Michelle Ciarrocca of the World Policy Institute, “The ‘kill vehicle’ that slammed into the target…only found it by first homing in on a much larger decoy balloon, making the true success of the test difficult to judge.” It is idealistic to believe that any sort of missile attack would be similar to the conditions tested against in October, 1999.

The second intercept test took place on January 18th, 2000. Although the test was done under a similar context as the first, it ultimately failed. The failure resulted from a sensor malfunctioning on the “kill vehicle”, highlighting the fact that even in the most ideal context, dangerous mistakes are certain to occur.

The third test was conducted on July 7, 2000, at Vandenberg, California. Once again, the test took place within the same context as the previous one, only to produce yet another failure. The test, which occurred off the Pacific coast, failed to hit its target.

Furthermore, in the only independent scientific analysis of the missiles test data, Dr. Postel (of Massachusetts Institute of Technology) has informed the White House that the tests yield evidence of ‘criminal fraud’. It was also claimed that the only successful NMD test was itself unrealistic. According to the July 3rd issue of Time Magazine, “the large balloon-shaped decoy acted not as a decoy but as a beacon, which assisted the kill vehicle in its efforts to locate the mock warhead.” The July 7th test used a similar decoy, while the rest of the test was “all but rigged.” The Pentagon was aware of the type of rocket launched, the nature of the target, the power of its engine, and the direction which it was both coming and going. In addition, there was also a countdown given prior to the warheads departure. Even the Pentagon’s director of operational test and evaluation described the tests as “highly scripted” and “not as challenging” as the conditions that would actually occur in reality. Unfortunately, the Pentagon has declined the invitation by scientists to investigate the issue of fraud, while continuing its testing, giving billion dollar corporations the silent green light.

AFTERMATH OF TESTS: NUCLEAR AND MISSILE
The effects of the nuclear tests by the US are much greater than those few minutes used to conduct them. The people of the Marshall Islands have castigated the United States for its deplorable role in polluting their homeland. According to the Pacific Concerns Research Centre, “For fifty years, nuclear testing in the Pacific by the United States, France, and Britain has polluted our island and our ocean. Now these missile tests are desecrating our skies.” The United States has already been asked to pay extra compensation for the Marshall Islanders, who have been irradiated by almost 70 US nuclear tests between 1946-1958. Unfortunately, one-third of these Islanders died before receiving their full payment of compensation.

The United States has played an irresponsible role in the aftermath of past nuclear testing, leaving Pacific Islanders to question any future accountability. According to Mrs. Salabula of PCRC, “The testing of the NMD system at the US Army Kwajalein Atoll base can only take place because the US authorities are deaf to our call—-we want a Nuclear Free and Independent Pacific!”
CURRENT US AND UN ATTITUDES
In a letter drafted by scientist Dr. Hans Bethe, who heads the group that created the first nuclear bomb, "movements towards deploying the BMD would be premature, wasteful, and dangerous." Members of the G8 have castigated the United States for its role in proliferation. In addition to Russia and China, the UN Secretary General, the European Union, Portugal, Sweden, Germany, France, and a coalition of nations known as the New Agenda Coalition (who effectively have the support of the overwhelming majority of countries in the world), have all expressed grave concern over the NMD.

The United Nations General Assembly clearly states not only its intention for peaceful space exploration, but also the means to attain it. It outlines specific guidelines for all member States to work together to avoid a possible arms race. The General Assembly Disarmament Committee Resolution of 1999, "Calls upon all States, in particular those with major space capabilities, to contribute actively to the objectives of the peaceful use of outer space and of the prevention of an arms race in outer space and to refrain from actions contrary to that objective and to the relevant existing treaties in the interest of maintaining international peace and security and promoting international cooperation." The United States, along with Albania, Micronesia and Israel voted against this resolution.

CORPORATIONS
Corporations, specifically Lockheed Martin, Boeing, Raytheon, and TRW, have the most to gain--about 30 billion dollars a year in Pentagon contracts. Interestingly, 35 billion dollars a year in "black project" budgets is spent weaponizing space without the approval of the American people or Congress! Currently, Lockheed Martin, Boeing, and TRW are in the midst of creating several space laser weapons; these jobs, however, were not received without effort. The top four corporations have spent 40 million dollars in lobbying Congress and through campaign contributions. One must question whether NMD is anything more than a means of satisfying the military-industrial sector, which is willing to spend money in order to make it.

WHEN SECURITY BECOMES AN OFFENSIVE ISSUE
Absurdly, NMD is not merely for defensive security, but rather, is one of many steps in the creation of an offensive nuclear regime. According to the General Ashy, Commander-in-Chief of US Space Command, "We'll engage in two missions because they will become increasingly important. We will engage in terrestrial targets someday--ships, airplanes, land targets--from space. We will engage targets in space, from space." He continued to state, "we're going to fight from space and we're going to fight into space. That's why the US has development programs in directed energy and hit to kill mechanisms."

The United States Space Command has been developing the concept of "Full Spectrum Dominance," claiming total domination of space, both in terms of weaponization and resources. These plans are detailed in a pamphlet called "Vision for 2020", the date by which the United States hopes to have literally seized control of outer space. General Ashy justifies the serious concerns of many countries stating, "it will take our everything between now and 2020 to achieve complete dominance for the US alone- no other nations are invited to be involved." These statements of abhorrent greed are not those of a nation in defense, but rather another manifestation of the warrior of American egoism. It seems ironic that these statements are coming from not only the signatories, but the initiators of the Outer Space Treaty of 1967, which claimed the use of space for "peaceful purposes". Rather than a defensive initiative, the drive to Star Wars is in reality an offensive initiative.

These "new" offensive initiatives emerge out of a long history of US espionage. For decades the United States has been spying on thousands of emails, faxes, and phone calls made all over the world. The US has set up spy bases via satellite stations in Menwith Hill (UK), Pine Gap (Australia), and the Aleutian Islands (US) - each of which looks over 1/3 of the world. Insofar as trust and security is concerned, it seems the United States is suffering from a severe case of paranoia, recreating many of the worries previously left behind in the Post-Cold War era.

KEY TERMS
Ballistic Missiles - a delivery vehicle that can carry various types of warheads (conventional or mass destruction) that follows a ballistic trajectory (gravity), unlike a cruise missile which is guided for the duration of its flight.
Kill Vehicle - the self-guided component of the interceptor which attempts to collide with incoming warheads destroying them on impact.
Interceptor - the missile that attempts to destroy incoming warheads.
Target Warhead - the warhead which the kill vehicle seeks to destroy.
Deployment - putting a weapon system into operational mode.
Counter-measures - steps taken to confuse, overwhelm, or deceive the kill vehicle such as foil balloons and decoys.
Submunition - smaller packets or bomblets of ammunition, many of which can be carried on a single missile, which can be used in biological or chemical warfare.
Boost Phase - the initial period of powered flight when the rockets thrusters are firing.
6 arguments against NMD

1. TECHNOLOGY
The first argument against NMD is the technology itself. It is currently believed, as it was in the Reagan administration, that it is impossible to create the necessary technology within the next few decades. One must be cautious in using this argument, however, for fear that the "lumbering behemoths of the apocalypse" (also known as the billion dollar corporations) will retort that the necessary funding can prove otherwise. The New York Times quotes Nira Schwartz, an ex-engineer of NMD, as stating that NMD is "not a defense of the United States, its a conspiracy to allow them to milk the government. They are creating jobs for themselves for life." The lack of technology is seen as no setback to the corporations, who profit with billions of dollars, assuring the Pentagon that increasing funds can make this dream a reality. However, is the recreation of an arms race and current insecurity worth the outcome which is only profiting Boeing, Raytheon, TRW and Lockheed Martin?

2. ACTUAL THREAT
In reality, no country has initiated the deployment of ballistic missiles capable of reaching the United States. North Korea, a feared "rogue state" is years away from developing a reliable Ballistic Missile system that could deliver any warhead to the United States, and has stated that any attempt to do so would be foolish. North Korea's current need for support from the international community, and more importantly its action and interest toward the reunification of Korea, seriously undermine the possibility of it launching any kind of attack. In the meantime, North Korea has even halted its missile flight testing, in an agreement with the US to loosen trade sanctions. As for Iran, experts believe it is unlikely that it could begin testing long range missiles within the next 15 years. Iraq is even less of a threat, with most of its missile infrastructure destroyed since the Gulf War. Iraq is also under severe sanctions, which limits its capability to acquire missiles and subsequent technology from other nations.

3. COSTS
One hundred and twenty-two billion dollars have been spent on Theater and National Missile Defense since World War II. Furthermore, the Pentagon believes that it would cost the American people 26.6 billion dollars to maintain a single missile defense site in Alaska, with 4 billion dollars in annual maintenance fees. Each ballistic missile test conducted by the US has cost over 100 million dollars, mostly resulting in failures. In total, the US has wasted 5.6 trillion dollars in nuclear arsenals. In fact, if all the dollars spent on nuclear weapons since 1945 were stacked one on top of another, it would reach the moon and almost back again. That is an alarming amount of money for one of the least likely threats to US security!

4. AGGRAVATING FRIENDS AND FOES ALIKE
The NMD system faces grave international opposition from almost every country.

It is viewed as an effort by the United States to enhance their offensive capabilities. According to the Chinese top arms control negotiators, US efforts to deploy NMD will risk collapsing the whole architecture of China's arms control and nonproliferation agreements with the West. China has even discussed considerations to expand its nuclear forces to compensate for the proposed US defense system. The possible consequences of the NMD may result in a renunciation of previous undertakings in China, barring nuclear or chemical weapons proliferation and nuclear testing. Similarly, Russia has threatened to stop reducing its nuclear arsenals if the deployment of NMD becomes a reality.

5. UNDERMINING INTERNATIONAL LAW
The 1972 Anti-Ballistic Missile Treaty (ABM) was one of the first steps in ending the Cold War, by reaching an agreement to downsize the number or anti-ballistic missile systems. Although both the United States and Russia have violated the Anti-Ballistic Missile Treaty in prior years, it is still a valuable and significant treaty that serves as the backbone for arms reduction and future disarmament. The slightest indication of NMD construction would violate the treaty, alienating international ties and most likely refueling the arms race.

Currently, the NMD has placed Russia and the United States on a ‘collision course’ over the issue. Russia and China rightfully have grave concerns over the deployment of NMD, which contradicts the 1972 ABM Treaty, but they should be encouraged not to join the arms race into space. The only way for the United States to deploy the system without violating the treaty would be to gain Russia's agreement in amending the treaty. Russian policy experts are dissatisfied with the amendment proposals and view the ultimatums set by the United States as unacceptable.

6. COUNTERMEASURES
One of the easiest countermeasures to NMD is submunition. The firing of hundreds of submunitions at the end of the boost phase would overwhelm the NMD system, rendering it useless. Another countermeasure can be achieved by designing indistinguishable decoys (as simple as foil balloons) to be released along with the warhead. This would require the defense system to launch an interceptor at each target in the hopes of hitting the actual warhead. This high-altitude countermeasure marks yet another disastrous flaw in the defense system. Finally, a third alternative would be to encase the warhead in a liquefied nitrogen cooled shroud, which would cool it to temperatures that would reduce its visibility to infrared sensors on the interceptor. These are few examples of countermeasures that could easily be deployed by other states to overwhelm or deceive any defense system.

* adapted from the article by Soulafreda Valassis & Felicity Hill
“NMD: Nationalistic Militaristic Domination?”
Between 1945 and 1996, there were a total of 2,046 nuclear tests conducted around the world (see below). Between 1945 — 1948, the United States was the only country to test weapons. This changed in 1949 when the Soviet Union tested for the first time. With the Cold War officially underway, the number of tests rapidly escalated, as did the proliferation of more powerful nuclear weapons for the five nuclear weapons states.

In one year, 1962, at the height of the Cold War, an unbelievable 178 nuclear tests were conducted, primarily by the United States and the Soviet Union. This is an average of more than one test every two days.

Even after the Cold War “ended”, tests continued well into the 1990’s. For people living in areas used for nuclear tests by the “super powers”, the radioactive legacy of nuclear tests will continue to be with them for generations to come.

SO, WHAT CAN BE DONE?
The Comprehensive Nuclear-Test-Ban Treaty (CTBT) has been a centerpiece of the international disarmament and non-proliferation agenda since the 1950’s. By banning all nuclear weapon test explosions, the CTBT will block the development of advanced, new types of nuclear warheads, and reduce dangerous nuclear arms competition.

As of January, 2001, the Treaty has been signed by over 160 states, including 41 of the 44 states required for entry into force. It has been ratified by 69 states, including 31 of the 44 states necessary to achieve entry into force.

Despite widespread global support for the CTBT, there are a handful of states which have not yet signed and/or ratified and which are holding up the entry into force of the Treaty. They include: US and China (which has not ratified) and India, Pakistan and North Korea (which have not yet signed).

The US President Bush is not expected to request Senate approval for the CTBT in 2001 or 2002, although he has said that he supports the existing US test moratorium. However, it is possible that President Bush may alter his current position on the CTBT before the end of his term in 2004.

With continued international support and active diplomacy on the part of the States party to the CTBT, full entry into force by 2005 is within reach.

Information source:
* CTBT information: our thanks to Daryl Kimball, Executive Director of the Coalition to Reduce Nuclear Dangers, USA; website: www.crd.org * www.reachingcriticalwill.org

FACT FILE:
NUCLEAR TESTING BETWEEN 1945 - 1996

data taken from the NRDC web site: www.nrdc.org/nuclear

USA: 1030 tests total
   215 atmospheric tests
   815 underground tests

SOVIET UNION: 715 tests total
   219 atmospheric tests
   496 underground tests

FRANCE: 210 tests total
   50 atmospheric tests
   160 underground tests

UNITED KINGDOM: 45 tests total
   21 atmospheric tests
   24 underground tests

CHINA: 45 tests total
   23 atmospheric tests
   22 underground tests

INDIA: 1 underground test in May 1974, (despite worldwide outcry, India and Pakistan went on to conduct several more weapons tests in 1998).
The legacies of nuclear testing in the Pacific

From the very beginning of the nuclear age, the peoples of the Pacific have borne the brunt of the testing of nuclear weapons. From 1946, the United States conducted 67 atomic and hydrogen bomb tests at Bikini and Eniwetak Atolls in the Marshall Islands, with 25 further tests at Christmas Island and nine more at Johnston Atoll. Britain tested nuclear weapons in the 1950’s, with 13 tests at Maralinga, Monte Bello and Emu Field in Australia, and nine tests at Christmas Island and Malden Island in the central Pacific. For over 30 years, from 1966 to 1996, France conducted 193 atmospheric and underground tests at Moruroa and Fangataufa atolls in French Polynesia.

The deserts, atolls and oceans of our region were chosen because they seemed to be vast empty spaces. But the nuclear powers showed little concern for the health and well-being of nearby island communities, and those civilian and military personnel who staffed the test sites.

In the Pacific, the nuclear era has threatened the land, waters and culture of the Pacific. The pollution of our waters, the ocean that unites us, has long been of concern.

Although nuclear testing in the Pacific has ended, there are still other nuclear threats to the region (such as the shipment of plutonium and high level nuclear wastes across the ocean; proposals to dump nuclear waste on isolated atolls, and uranium mining on indigenous people’s land in Australia, Canada and the US). Most importantly, there remains a responsibility of the nuclear powers for the health and environmental impacts of past nuclear testing, even after the end of most nuclear testing.

Excerpt from the Pacific Concerns Resource Centre Briefing Paper — March 2000

"The Pacific Concerns Resource Centre (PCRC) Briefing Paper — the legacies of nuclear testing in the Pacific" outlines the results of studies done on Moruroa, Fangataufa, the Marshall Islands, and the Christmas Islands, giving excellent background information and further actions required for the Pacific. More information is available from the PCRC website: www.perc.org.fj

The Shundahai story of Nevada

The Nevada Test Site (NTS) is a Rhode Island-sized testing ground northwest of Las Vegas where the US conducted the majority of its nuclear weapons tests during the Cold War. It was created by President Harry Truman on January 11, 1951, and the first atomic test, Operation Ranger, was conducted on January 27, 1951. In order for the test site to be created nearly 100 traditional Shoshone family camps had to be relocated — these families were then forced on to reservations. Initially the NTS, originally called the Nevada Proving Grounds, consisted of 680 square miles, about half its present size. Additional land was added in 1958, 1961, 1964, and 1967.

In 1863 the US government recognized Western Shoshone sovereign territory when it signed the Treaty of Peace and Friendship at Ruby Valley, Nevada. Newe Sogobia (the Western Shoshone Nation) includes most of Nevada, and extends into Idaho, Utah and Southern California.

In 1948, Western Shoshone lands were seized to create the Nevada Test Site, forcing over 100 families to abandon seasonal or permanent family camps. No compensation was ever offered.

In the 1950’s, atomic tests were conducted above ground and resulted in devastating health effects to the “Downwinders” northeast of the site in Nevada and Utah. Since then, tests were conducted only underground, resulting in a pockmarked “lunar” landscape. From its founding in 1951 until the final Divider test on September 23, 1992, 99 above ground tests and over 800 below ground nuclear tests were detonated in this desert. There have been over 1000 nuclear tests conducted by the United States. Of these, 24 tests were done jointly with the United Kingdom, and over 900 tests were conducted at the NTS.

The NTS is operated by the Department of Energy, and is bounded on three sides by the Nellis Air Force Range. Today, the test site is under consideration for various storage and processing projects for dangerous materials, non-nuclear and subcritical nuclear tests are still conducted there.

Shundahai Network formed at the Nevada Test Site (NTS) in October 1994 around the concept that the peace and disarmament movement must embrace human rights and environmental justice in order to create long-term, sustainable change. “Shundahai” is a Newe (Western Shoshone) word meaning “peace and harmony with all creation”. Our first office was in Washington, DC. At the end of 1996 we moved to Las Vegas to focus more closely on closing the NTS as a central link in the US nuclear weapons and nuclear waste programs. In 2000, we moved our office to Pahrump, NV, in order to work more closely with this directly affected community.

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More information about the Shundahai Network is available on: www.shundahai.org
THE CONFERENCE ON DISARMAMENT

The Conference on Disarmament (CD) is the world's sole multilateral disarmament treaty negotiating body. While the CD is independent of the United Nations, its secretary is appointed by the UN Secretary-General; it is required to consider recommendations from the General Assembly; and it submits reports at least annually to the UN General Assembly in Geneva.

THE EMERGENCE OF THE CD:
A brief time-line of the emergence of the current CD follows:

- March 1962: established as the Eighteen Nations Disarmament Committee (ENDC) with 18 members, jointly chaired by USA and USSR
- 1969: became the Conference of the Committee on Disarmament (CCD) with 30 members, jointly chaired by USA and USSR
- 1983: became the Conference on Disarmament (CD) with 38 members
- June 1996: CD expanded membership to 61 members
- 1999: CD expanded membership to 66 countries

GROUPINGS WITH THE CD:
Groupings among the members include:

- The Western Group
- The Non-Aligned Movement (also known as the G21)
- The Group of Eastern European States and Others
- The P5 (the 5 permanent members of the Security Council, the 5 declared nuclear weapons states)
- The P4 (the five minus China)
- China often refers to itself as the Group of One.

CD SESSIONS TIME TABLE:
The CD has three sessions each year.
The first begins in the second-last week of January and lasts for 10 weeks; the second begins in May and lasts seven weeks; and the third in July and lasts seven weeks.

The CD holds one public plenary per week, although if appropriate, more may be held.

CHAIR OF THE CD:
The chair of the Conference rotates every four working weeks following the English alphabetical list of membership.

AGENDAS AND DECISION MAKING IN THE CD:
The CD has a permanent agenda, also known as the Decalogue, which includes the following:

1. Nuclear weapons in all aspects
2. Chemical weapons [removed from the agenda in 1993 after the CD completed the Chemical Weapons Convention on 3 September 1992]
3. Other weapons of mass destruction
4. Conventional weapons
5. Reduction of military budgets
6. Reduction of armed forces
7. Disarmament and development
8. Disarmament and international security
9. Collateral measures; confidence building measures; effective verification methods in relation to appropriate disarmament measures, acceptable to all parties
10. Comprehensive programme of disarmament leading to general and complete disarmament under effective international control

Most items on the CD agenda are discussed in ad hoc committees, held in private. The whole conference must agree by consensus to the mandate given to ad hoc committees.

Information sources:
* Documents are available by contacting the secretariat of the Special NGO Committee on Disarmament (WILPF) or by calling the Documentation and Conference Officer, Mlle Editta Pasqualin at + 41 22 917 3036, www.unog.ch/frames/disarm/disdoc.htm
* see www.reachingcriticalwill.org for links to UN bodies
hoc committees.

THE DISARMAMENT COMMISSION
(UNDC)

THE EMERGENCE OF THE COMMISSION:
The Disarmament Commission was set up by the final document of the 1978 Special Session on Disarmament (also known as SSODI) as a deliberative body, a subsidiary organ of the General Assembly with universal membership.

COMMISSION TIMETABLE:
The SSOD2 document directed it to meet for not more than four weeks in 1979 and this regimen has been followed for succeeding years, with one exception in 1988. Members hold a brief organizational meeting in December of the preceding year at the conclusion of the UN General Assembly.

AGENDAS AND DECISION MAKING:
The UNDC has no specific agenda, its mandate is to, “consider and make recommendations on various problems in the field of disarmament and to follow up on relevant decisions” of SSOD1. Its recommendations are made to the General Assembly and it decides mostly by consensus.

In 1991, due to accusations that the Commission was ineffective, the UNDC agreed that no item should remain on the agenda for more than three consecutive years, and for each annual session the agenda should contain no more than four substantive items. During the 1991—93 sessions, the UNDC succeeded in completing only two agenda items. During the 1994—95 sessions, the UNDC was unable to reach consensus on three agenda items.

At its 92nd plenary meeting, on 8 September 1998, the General Assembly, on the recommendation of the First Committee, recalling its resolution 52/12 B of 15 December 1997, and bearing in mind the need to enhance the efficient functioning of the Disarmament Commission, decided that the DC should continue to play a unique role within the mechanism on disarmament as the only body with universal membership for in-depth deliberations on relevant disarmament issues.

They also decided that the substantive agenda of the Disarmament Commission should normally comprise two agenda items per year from the whole range of disarmament issues, including one on nuclear disarmament. The possibility of a third agenda item would be retained if there was a consensus to adopt such an item, and that parallel meetings of its subsidiary bodies should be avoided.

Substantive agenda items should be considered in the Disarmament Commission for three years.

THE UNITED NATIONS GENERAL ASSEMBLY FIRST COMMITTEE

The United Nations General Assembly has set up six committees, one of which, the First Committee, handles Disarmament and International Security matters including the regulation of armaments. It meets in New York.

COMMITTEE TIMETABLE:
Sessions of the General Assembly begin in New York on the third Tuesday of September and the First Committee usually begins in October.

AGENDAS AND DECISION MAKING:
Any member can introduce an item and the First Committee deals with about 25—50 items per year. The Committee passes its recommendations on to the General Assembly (each UN member is automatically a member of the First Committee) to vote as a resolution.

In recent years, the First Committee has completed voting by the middle of November and the General Assembly has voted on First Committee draft resolutions in the first part of December. The First Committee makes decisions by a simple majority; the General Assembly decides important questions, such as recommendations on peace and security, by a two thirds vote, but other questions by a simple majority.

The First Committee handles most topics which are the subject of negotiations elsewhere such as a Comprehensive Test Ban Treaty, chemical weapons, biological weapons, conventional arms sales, arms race in outer space and related topics.

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Information sources:

* www.un.org/Depts/dda/UNDC/UNDC.htm
* see www.reachingcriticalwill.org for links to UN bodies
The Nuclear Non-Proliferation Treaty (NPT) opened for signature in 1968 and quickly entered into force, becoming international law on 5 March 1970 when 43 governments ratified the text. By the year 2000, 187 governments had ratified the treaty — nearly every government in the world. Of these, 182 do not have nuclear weapons.

EXTENDING THE TREATY FROM 1995:
The Review Conference (RevCon) in 1995 was extremely controversial. The decision to make this temporary treaty regime a permanent body was a difficult one that caused fierce splits in both the NGO and governmental communities. Some lament the decision taken in 1995, declaring the treaty an “irrelevant and stillborn” disarmament tool. Others feel that the arms control and disarmament regime was strengthened by the permanence of the treaty.

The NPT recognizes only five governments as Nuclear Weapons States (NWS). It defines a NWS as one that had manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967. Therefore, the NWS recognized in the NPT are the United States of America, France, Russia, China and the United Kingdom.

However, there are now three other countries that are known to have nuclear weapons – these are Israel, India and Pakistan. To date, these three states and Cuba remain the only countries not to have signed the NPT.

KEY TEXT - ARTICLE VI:
There are 11 Articles written into the NPT. The key article within the treaty relating to nuclear weapons disarmament is Article VI. This reads:

“Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”

THE NPT TALK CYCLE:
REVIEW CONFERENCES: The governments of the world gather on a five-yearly basis to review the Treaty. This meeting is called a Review Conference (or RevCon). While the NPT is not technically speaking a UN body, it is serviced by the UN Secretariat and meetings are held at the United Nations. Governments, particularly NWS, are expected to report during RevCons under three key headings: Nuclear Weapons Free Zones, Nuclear Disarmament and Safeguards.

PREPARATORY MEETINGS: Since 1995, when the NPT review cycle was strengthened, there have been regular Preparatory Committee (PrepCom) meetings in the build-up to the review conferences. The PrepComs aim to monitor progress, develop strategies and implement the broader aims of nuclear disarmament in the lead up to the major RevCons.

NEXT MEETINGS: The next round of talks on nuclear non-proliferation will be at the PrepCom meetings to be held in 2002, 2003, and 2004. This will lead into the next RevCon in 2005. Non-governmental organizations will continue to work towards these meetings to ensure that nuclear non-proliferation remains a key area of focus of their governments.
action plan for disarmament

At the Nuclear Non-Proliferation Treaty Review Conference (NPT RevCon) in 2000, 187 of the world’s governments agreed to the following practical 13 point “action plan” for the systematic and progressive efforts to achieve complete disarmament.

1. SIGN THE CTBT
The importance and urgency of signatures and ratifications, without delay and without conditions and in accordance with constitutional processes, to achieve the early entry into force of the Comprehensive Nuclear-Test-Ban Treaty.

2. STOP TESTING
A moratorium on nuclear weapon-test explosions or any other nuclear explosions pending entry into force of that Treaty.

3. NEGOTIATE
The necessity of negotiations in the Conference on Disarmament on a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices in accordance with the statement of the Special Coordinator in 1995 and the mandate contained therein, taking into consideration both nuclear disarmament and nuclear non-proliferation objectives. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate commencement of negotiations on such a treaty with a view to their conclusion within five years.

4. NEGOTIATE
The necessity of establishing in the Conference on Disarmament an appropriate subsidiary body with a mandate to deal with nuclear disarmament. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate establishment of such a body.

5. NO GOING BACK
The principle of irreversibility to apply to nuclear disarmament, nuclear and other related arms control and reduction measures.

6. ABOLISH NUKES
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.

7. IMPLEMENT EXISTING TREATIES
The early entry into force and full implementation of START II and the conclusion of START III as soon as possible while preserving and strengthening the ABM Treaty as a cornerstone of strategic stability and as a basis for further reductions of strategic offensive weapons, in accordance with its provisions.

8. IMPLEMENT EXISTING TREATIES
The completion and implementation of the Trilateral Initiative between the United States of America, the Russian Federation and the International Atomic Energy Agency.

9. STEP BY STEP...
Steps by all the Nuclear Weapon States leading to nuclear disarmament in a way that promotes international stability, and based on the principle of undiminished security for all:
• Further unilateral efforts by the Nuclear Weapon States to reduce their nuclear arsenals.
• Increased transparency by the Nuclear Weapon States with regard to the nuclear weapons capabilities and the implementation of agreements pursuant to Article VI and as a voluntary confidence-building measure to support further progress on nuclear disarmament.
• The further reduction of non-strategic nuclear weapons, based on unilateral initiatives and as an integral part of the nuclear arms reduction and disarmament process.
• Concrete agreed measures to further reduce the operational status of nuclear weapons systems.
• A diminished role for nuclear weapons in security policies to minimize the risk that these weapons ever be used and to facilitate the process of their total elimination.
• The engagement as soon as appropriate of all the Nuclear Weapon States in the process leading to the total elimination of their nuclear weapons.

10. STOP PRODUCING PLUTONIUM
Arrangements by all Nuclear Weapon States to place, as soon as practicable, fissile material designated by each of them as no longer required for military purposes under IAEA or other relevant international verification and arrangements for the disposition of such material for peaceful purposes, to ensure that such material remains permanently outside of military programmes.

11. GENERAL AND COMPLETE DISARMAMENT
Reaffirmation that the ultimate objective of the efforts of States in the disarmament process is general and complete disarmament under effective international control.

12. REPORT
Regular reports, within the framework of the NPT strengthened review process, by all States parties on the implementation of Article VI and paragraph 4 (c) of the 1995 Decision on “Principles and Objectives for Nuclear Non-Proliferation and Disarmament”, and recalling the Advisory Opinion of the International Court of Justice of 8 July 1996.

13. VERIFY
The further development of the verification capabilities that will be required to provide assurance of compliance with nuclear disarmament agreements for the achievement and maintenance of a nuclear-weapon-free world.

Please note: the sub-headings are an editorial addition, not official text.
Nuclear power was once promoted as clean and safe, and "too cheap to meter".

However, with the reality of increasing volumes of nuclear waste, critical accidents at power stations and the potential use of reactor technology for military and weapons purposes, the world is waking up to the risks of nuclear energy. It is not clean or safe and it is certainly not cheap.

Article IV of the NPT, the mandate of the International Atomic Energy Agency (IAEA) and agreements made between the IAEA and the World Health Organization are documents of their time and reflect historically specific moments in science and in politics. Assumptions made in 1945, or 1968, about nuclear technology have to be reevaluated in a world that has experienced Chernobyl and Three Mile Island. When the Non-Proliferation Treaty was negotiated, nuclear power was still a relatively new technology. There were high hopes and clear assumptions that it would be safe, clean and cheap and that its proliferation risks could be contained. Experience has shown us that these assessments cannot be supported and that the risks were gravely underestimated.

There are sustainable energy alternatives, which, if given the same amount of research and development funding and commercial support could meet the demands of the world's energy needs without the disastrous impacts of the nuclear option.

Importantly, it is neither possible nor acceptable for our governments to separate out weapons and call the rest of the nuclear industry "peaceful". Around 70% of the world’s uranium deposits are located on indigenous lands, and the industry creates upheaval and dislocation of these peoples through their activities. For these communities in particular, "peaceful uses" often does not mean peaceful origins. Indeed with the problem of long-lived nuclear waste still unresolved, “peaceful uses” also does not mean peaceful ends.

FACT FILE:

How many nuclear power stations currently exist?
In the year 2001 the world has 438 operational nuclear power stations with 31 more under construction according to the International Atomic Energy Agency (IAEA).

How much electricity do they supply?
These stations supply approximately 16 per cent of the world's electricity, 85 per cent of which is concentrated in industrialized countries.

Who has Nuclear Power Stations?
150 nuclear reactors are based in Western Europe, and a further 118 in North America.
France has reported the greatest dependence on nuclear power, with 76.3 per cent of its electricity being nuclear powered.
Lithuania follows a close second with 73.7 per cent.
South Korea generates 40.7 per cent of their electricity needs from nuclear power, Sweden 39 per cent and Switzerland 38.2 per cent.
The Middle East and Asia have 94 nuclear power plants, but particularly China, India, South Korea and Japan are looking to continue the industry, according to the IAEA.
Western Europe has 150 reactors, compared to 118 for North America.

What is the IAEA?
The International Atomic Energy Agency (IAEA) was set up in 1957 to monitor the development of nuclear technology. The agency is based in Vienna and have representatives around the world.
One of the inescapable problems associated with the nuclear industry is the waste created.

Radioactive waste is produced at every stage of the nuclear cycle, from the mining of uranium to the production of nuclear energy, nuclear medicine or nuclear weapons.

The waste can be radioactive for periods of up to hundreds of thousands of years, threatening our environment and health.

In the United States alone, around 6 metric tons of nuclear waste is created every day.

And despite the millions of dollars that have gone into creating the nuclear industry, a coherent and proven solution to the problem of nuclear waste has still not been developed and perhaps never will be.

The inevitable consequence of anything produced by the nuclear industry is long lived radioactive waste, and this fact can not be separated out from discussions about nuclear weapons disarmament or any other nuclear activity.

The movement of waste is simply transferring a problem from one place to another, it will not go away. The targeting of less powerful peoples and nations to become dump sites for the world's nuclear waste in the name of economic development is simply environmental racism, and should not be tolerated. No sovereign nation on earth should be made to bear the brunt of the toxicity of the nuclear age.

Any claim of a successful solution for the permanent disposal of this material is premature, and is simply the claim of an industry intent on generating this waste as a by-product of its activity.

Any long-term plan for the storage of nuclear materials from reactors and from dismantled weapons should not centralize waste, and should not transport waste - the dangers of both are too high. Nuclear waste should be internationally negotiated and verifiable, and its management should begin with the only solution to stopping the creation of more waste - closing down the industry as a bad mistake.

The shocking and inescapable truth is that when the last nuclear weapon is disarmed and the nuclear power stations stand quiet and obsolete, there will still be a legacy of radioactive waste to pass on from our generation to all those after us.

Out of site...out of mind... an **Australian** story

In 2000, the Australian Federal Government proposed a national radioactive waste dump in the central desert homelands of South Australia. This dump was proposed to address the problem of nuclear waste generated by the Lucas Height reactor, a small research reactor located in the city of Sydney. The research reactor was fast becoming obsolete and the government wanted to update the technology and expand the reactor facilities. Due to strong community opposition, they were not permitted to do this unless they found a solution to the problem of nuclear waste generated by the reactor.

Previously most waste from Lucas Heights was stored at the reactor facility itself and periodically transported to France’s Cogema facilities for reprocessing, leaving open the dangerous possibility of radioactive leaks at the site or during transportation across the Pacific. The Australian Government sought to establish a low level nuclear waste dump far from residential areas and therefore in the Australian desert. However the area they have chosen is traditional lands of the local indigenous people, and there is strong opposition from these indigenous traditional owners and the broader Australian community to the nuclear dump.

The great fear about the establishment of a small national radioactive waste dump within Australia is that this will open the door to high level international nuclear waste. There have already been proposals put to the Australian government for a high level nuclear waste dump and although there have been strong statements of opposition to such proposals, the people of Australia are rightfully concerned that the nuclear industry will continue to push for this plan. The problem of waste storage or disposal will not go away and because the waste is long lived, the industry will necessarily continue to push for high level dumps in politically and geographically stable countries such as Australia.

The proposed national nuclear waste dump in Australia will only have an ‘institutional control period’ of 100 years. This means the dumps operator is only responsible under law for 100 years. It is also claimed that the dump will only have an ‘engineering integrity’ of 300 years. However, some of the waste they intend to dump have half lives extending far beyond these minimal amounts of time.

At both ends of the nuclear cycle, from where the uranium is dug up to where the waste is dumped, it is indigenous people who bear the brunt of this dirty industry.

For more information please see the Iratiwanti website of the Kupa Piti Kungka Tjuta women fighting against the proposed nuclear waste dump in Australia: [www.iratiwanti.org](http://www.iratiwanti.org)
Uranium mining is the beginning of the nuclear chain. Without the mines we would not be able to produce the devastating weapons, the unsafe power or the long-lived radioactive waste. Therefore, many people working against the nuclear industry choose to focus their energy on uranium mining.

The stunted growth of the uranium industry around the world has been partly a consequence of the strength of public antipathy towards the industry. Many people perceive uranium mining as a threat to the environment. In addition, there is public distrust of the effectiveness of the international safeguards supposed to prevent the diversion of uranium into nuclear weapons.

Public opposition to uranium mining has strengthened as understanding of radioactive hazards has grown. For example, Australia, which has nearly one-third of the world’s uranium reserves, exports only about one-tenth of the world’s total production. This is largely due to enormous public and political resistance to the mining of this deadly mineral.

ENVIRONMENTAL IMPACTS:
The environmental impacts of uranium mining are numerous. The problems start as early as mineral exploration and continue well past the closing of a mine.

Exploration for uranium can cause problems, such as dispossession of indigenous people, that are eclipsed by concerns if permission to mine is granted. Once a mine is functional, the operations must be monitored closely for environmental integrity, including the disposal of the “waste” created through the mining process—tailings. Tailings can be harmful and hard to monitor or isolate effectively.

As an estimated 70% of uranium deposits throughout the world are located on indigenous people’s lands. There are enormous problems around land rights and the dispossession of traditional cultures.

Even when a mine ceases to operate, there are often problems. “Rehabilitation” of a closed mine can often be cosmetic. Much environmental damage remains to be controlled at the public’s expense.

WORKERS HEALTH:
From the mining of uranium to the manufacturing of weapons and nuclear power, workers are faced with the risk of exposure to radiation.

According to reports by the International Commission for Radiological Protection (ICRP), work-related deaths in uranium mines are estimated at between 5, 500 deaths (for radiation workers @ 3 mSv) to 37, 500 deaths (for radiation workers @ 20 mSv) per million workers a year.

This compared with deaths in the manufacturing industry (estimated at 110 deaths per year per million workers) and the construction industry (estimated at 164 deaths per million workers per year)*.

One of the most important findings of an inquiry within the USA Department of Energy in 1989 was that low doses of radiation, spread over a number of years, are just as dangerous as acute exposure. It means that the model used by the ICRP to determine the acceptable levels of exposure for workers is wrong. Science today understands what it did not fully comprehend in 1945 or perhaps even in 1968: there is no safe level of radiation.

THE ECONOMICS:
Uranium is an unstable market commodity. The fortunes of uranium mining are bound up with those of the nuclear industry.

Today the nuclear industry not only faces grave economic and technical difficulties but almost insurmountable political obstacles arising out the resistance of people to having nuclear reactors built in their own backyard.

All this makes the fortunes of the nuclear industry, and therefore the uranium industry, very uncertain.

Mining is a very capital intensive industry. Mining projects require massive infrastructure, including machinery to quarry, transport and process the ore, often new roads and excessive water consumption. The high cost of these calls for large capital investment.

High capital investment in turn calls for high returns on investors’ funds and high interest repayments on borrowings. Mines are therefore designed to minimize labor costs.

But while the number of jobs created by opening a uranium mine is relatively small, citizens in many countries pay heavily through their taxes for back-up facilities and for regulating the mining operation and its heavy environmental impacts.

Mining venturers also receive financial inducements from governments by way of tax concessions. In effect governments subsidize the company’s investment besides contributing to the costs of the infrastructure and regulating the industry.

Uraniu mining is the first step in a deadly industry. Stop the mines and you will slow — and eventually stop — the industry.

* ICRP reports ICRP27/ICRP60.
* workers health information based on the ‘Uranium Mining: How it affects you’ pamphlet by the Roxby Action Collective & Friends of the Earth, Australia
* other information in this briefing sheet based on the MAUM public education sheet on ‘the Benefits of Uranium Mining’ reproduced with the permission of SEA-US Australia www.sea-us.org.au
There are 92 naturally occurring elements but only one, uranium, has become the key to the operation of the nuclear fuel cycle. This singular use of uranium stems from its unstable, radioactive atomic structure. The safety problems arising from the use of uranium as an energy source stem from this highly radioactive property of uranium and the wastes it produces.

THE URANIUM ATOM
An atom can be pictured as a small universe with a nucleus at its centre and electrons orbiting around it. The nucleus contains protons and neutrons. Each electron has a negative charge and each proton a positive charge; since there are an equal number of protons and electrons the atom is neutral.

Atoms of the same element have the same number of protons (the atomic number). However, the same element can have atoms with varying numbers of neutrons in their nucleus giving atomic species of different atomic weights known as nuclides. Thus for the key element uranium, the nucleus of uranium-235 has 143 neutrons and 92 protons and uranium-238 has 146 neutrons and 92 protons.

RADIOACTIVITY OF THE WASTES
Some nuclides are unstable and decay spontaneously into other nuclides. Unstable nuclides are called radionuclides and their decay is called radioactivity.

Some radionuclides are more unstable than others and decay at a faster rate. Each radionuclide decays at its own characteristic rate. This is known as its half-life. One half-life is the time taken for half the atoms in a quantity of a radionuclide to decay.

The unit of radioactivity is a becquerel which is 1 disintegration each second. A terbecquerel is 1012 disintegrations a second.

IONISING RADIATIONS
As radioactive atoms decay, alpha, beta and gamma rays are emitted.

Alpha rays are heavy positively charged particles travelling at high speed (several kilometers a second). These rays emanate from heavy elements such as uranium, plutonium and americium.

Beta rays are negatively charged electrons seven thousand times lighter than alpha particles.

Gamma rays are electromagnetic radiation which emanates from most though not all radionuclides.

ATOMIC FISSION
Because radioactive decay of uranium atoms is over a great length of time the energy released cannot be readily harnessed.

The energy in atomic nuclei is only unleashed through a more drastic rupture of the atom. This became practical when it was discovered in 1938 that when uranium-235 is bombarded by neutrons it is unstable enough to split or fission into two small atoms at the same time releasing more neutrons.

CHAIN REACTION
As uranium-235 atoms split more and more neutrons are released until a chain reaction starts. Some fission products and their half-life are:

- **Radon-222**: 4 days
- **Iodine-131**: 8 days
- **Krypton-85**: 10 years
- **Tritium (Hydrogen-3)**: 12 years
- **Strontium-90**: 29 years
- **Cesium-137**: 30 years
- **Americium-241**: 433 years
- **Radium-226**: 1,622 years
- **Plutonium-239**: 24,000 years

CONTROLLED & UNCONTROLLED CHAIN REACTIONS
An atomic explosion is an uncontrolled chain reaction.

In a nuclear reactor the chain reaction is controlled by using rods containing boron, an element with the capacity to ‘mop up’ excess neutrons. The safe operation of a reactor depends on keeping the number of neutrons being released evenly balanced with the number absorbed by uranium-235 atoms in the splitting process.

When the number of neutrons around the uranium fuel gets out of control then an accident such as those at Windscale, Three Mile Island, Chernobyl will occur.

PLUTONIUM
Uranium-238, unlike uranium-235, rarely fissions. But a uranium-238 atom can capture a neutron to produce a plutonium-239 atom. Plutonium-239 fissions faster than uranium-235 but still at a rate suitable to use in nuclear explosions. Plutonium thought to be useful fuel for breeder reactors specially designed to generate more plutonium-239 than it ‘burns’. So far it has not functioned successfully in practice.

Plutonium is being mixed with uranium (MOX - mixed oxide fuel) for use in thermal reactors.

Information sources: