

OUR PROGRAMME: A JOURNEY AROUND THE GLOBE

- 9:00 h Attunement by a representative of indigenous people
- 9:05 h Welcome Adress
Claus Biegert on behalf of the conference organizers
- 9:10 h GERMANY
Michael Beleites: The Wismut file
- 9:30 h CANADA
Gordon Edwards, Canadian Coalition for Nuclear Responsibility
Robert Del Tredici, co-founder of the Atomic Photographers Guild
- 10:20 h Break
- 10:50 h USA
Manuel Pino, Acoma Pueblo, New Mexico
Charmaine White Face, Lakota Nation, South Dakota
- 11:40 h BRASIL
Video message: Davi Kopenawa Janomani
- 11:50 h AUSTRALIA
Rebecca Bear Wingfield,Kupa Pita Kungka Tjuta, South Australia
Delegation of the Gundjehmi Aboriginal Corporation (GAC),
Justin O'Brien, Kirsten Blair & Dave Sweeney representing the
Mirarr People
Video message: Yvonne Margarula, Mirarr Senior Traditional Owner
- 12:50 h Lunch
- 14:00 h **URANIUM – RADIATION – HEALTH**
Health effects of uranium Mining

Dale Dewar, MD, FCFP, Executive Director, PGS Canada
Michael Dworkind, MD, President of PGS, Canada
Sebastian Pflugbeil, society for radiation protection
- 15:00 h INDIA
Punit Raj Kishor Minj, Uraon, secretary general of the JMACC
and coordinator of BIRSA-MMC
- 15:30 h Break



16.00 h NAMIBIA
Hilma Shindondola-Mote, director of the Labour Resource and
Research Institute, Windhoek

NIGER
Azara Jalawi, president of commune des femmes, Arlit

MALI
Many Camara, ARCF, university of Bamako

17:00 h RUSSIA
Oleg Bodrov, chairman Green World

17:30 h CONCLUSION

MODERATION: Claus Biegert, Nuclear Free Future Award

18:15 h reception for the congress' participants by the mayor of Basel and
IPPNW-board member Dr. Guy Morin, historical museum
(Barfüsserkirche), Barfüsserplatz - afterwards shuttle to rhineport
Basel

19: 30 h dinner on the "Schiff", rhineport Basel

OUR SPEAKERS



REBECCA BEAR-WINGFIELD

is an Aboriginal activist and has been working for many years to improve the rights of indigenous peoples, migrants and for a nuclear free future. Bear-Wingfield worked as a nurse and took Aboriginal Studies and Educational Science at the South Australian College of Advanced Education. Her doctorate focussed on early childhood education and she worked as a private lecturer at the University of Adelaide and Flinders. Rebecca Bear-Wingfield holds, among other positions, the deputy chair of the Australian Nuclear Free Alliance (ANFA) and is a committee member of the Aboriginal Advancement League (SA). In 2009 she spoke as an expert to the UN Forum on Indigenous Affairs.



MICHAEL BELEITES

is one of the founders of the environmental movement in the former GDR. Beleites had already begun to work on environmental political issues during his training as a zoological preparateur at the Natural History Museum in Gera. He first received public attention in 1988 when he presented illegally collated research findings on uranium mining in Wismut to the 1st Ecumenical Assembly in Dresden. These are documented in the underground report „Pechblende – der Uranbergbau und die Folgen“ (Wittenberg 1988). After the Wall fell, Michael Beleites studied agricultural science at the Humboldt University in Berlin. He is the regional representative in Saxony for State Security documents of the former GDR. He has written several books, including „Altlast Wismut“.

KIRSTEN BLAIR

has spent much of the last 15 years working on environmental and social justice issues including uranium mining in the Kakadu region. She has worked for several NGOs including the Gundjehmi Aboriginal Corporation and the Environment Centre of the Northern Territory, both of which played key roles in the ultimately successful campaign to stop uranium mining at Jabiluka.





OLEG BODROV

is Chair of the environmental organisation „Green World“ and an anti-nuclear activist in Russia. After completing his studies in engineering and physics, he worked as a researcher on submarine reactor science for several years. In 1979 a nuclear accident made him change his political opinion. He has worked for the restitution of the radioactively contaminated Baltic sea since 1980 and received the Aland Islands Baltic Fund International Award for this work in 2000. Since 2003 Oleg Bodrov has tirelessly worked as consultant, author, film producer and political activist for the shutting down of old nuclear power plants and their replacement with renewable energy. Oleg Bodrov received the Nuclear Free Future Award 2010. www.greenworld.org.ru



MANY CAMARA

is a sociology and anthropology Professor at the University of Bamako, the capital of Mali. He was born in Falea, a village made up of 21 hamlets on the border between Senegal and Guinea. There are plans to mine uranium reserves that have been found in the area surrounding Falea. During the planning phase for these mines, Many Camara will work to protect the people of Falea. A “Zero Study” is intended to show the exact level of exposition to radiation in the region before the mining begins, in order to measure precisely the effect of uranium mining later on. At the same time, Many Camara is setting up a local department of the University of Bamako in Falea in order to record changes to the living conditions of the indigenous people.



DALE DEWAR

is a rural doctor from Wynyard, Sk . and international human rights activist. She is the Executive Director of Physicians for Global Survival and chair of the International Committee of the Society of Rural Physicians of Canada. Dale has been involved in medical education in Iraq, Pakistan and the southern Philippines and has worked extensively with Aboriginal peoples in Canada. She is Past Chair of the Rural and regional Committee of the Saskatchewan Medical Association and presented a position paper to the Uranium Development Partnership on behalf of the Association. She is also a medical columnist on CBC radio and, along with her husband Bill Curry, is the recipient of the SCIC Global Citizen Award for 2008. Dale was privileged to serve as Clerk of Canadian Yearly Meeting (Quakers) 2007 – 2009 and continues as Mentoring Clerk.



MICHAEL DWORKIND

is a peace activist and the founding president of *Professionel de la santé pour la survie mondiale*, the Quebec chapter of *Physicians for Global Survival*. He is currently board member of PGS and the International Delegate for *International Physicians for Prevention of Nuclear War*. Dr. Dworkind is Associate Professor of Family Medicine at the McGill School of Medicine, a fellow of the College of Family Physicians of Canada. He is a consultant in pain and palliative care at the Jewish General Hospital.



GORDON EDWARDS

is President of the Canadian Coalition for Nuclear Responsibility. For the last three decades he has been one of the leading activists in Canada's anti-nuclear movement. Gordon Edwards proved that the limits set by the Canadian government for radon gas were six times too high – a claim that was later confirmed by the 'Medical Association in British Columbia' as well as the 'U.S. National Academy of Sciences'. The work he did on the CANDU reactor was similar. He also played a key role in the moratorium on new reactors in Quebec and in various moratoria on mining for uranium in Labrador, Nova Scotia and British Columbia. He brought the nuclear programme of the 'Atomic Energy of Canada' to a standstill and made a major contribution to preventing a final depository for radioactive waste on the border from Quebec to the USA. Edwards has produced several exemplary informative publications together with Robert Del Tredici on uranium mining and maps of nuclear Canada. Gordon Edwards received the Nuclear Free Future Award 2006. www.ccnr.org/

AZARA JALAWI

belongs to the ethnic group of the Tuareg. She comes from Arlit, in North Niger. The French company of Areva has mined uranium for more than 40 years in this part of the country. Ms Jalawi's parents had to leave their tribe's homeland because of the uranium mining and they settled in the city of Arlit. Ms Jalawi has been active in the Civil Society of Arlit for a long time. She is president of the Federation of Women's Groups in the urban area of Arlit. This federation supports protest marches against Areva. Ms Jalawi is also a member of the organisation of „aghirin man“ that concerns itself with the effects of uranium mining in Niger.

As the Vice-President of the Civil Society of Arlit, Ms Jalawi belongs to the oversight board of a microfinancial institution that receives funding from Areva. She was also a member of the Arlit city parliament from 2004 to 2010. Ms Jalawi was born in 1974, is the mother of two children and is a widow.

PUNIT RAJ KISHOR MINZ

belongs to the tribe Uraon and has worked since 2003 as an activist against uranium mining in the Indian Province of Jharkhand. As the Secretary-General of the Jharkhand Mines Area Coordination Committee (JMACC) and the Coordinator of the Bindrai Institute for Research Study & Action (BIRSA) he has dedicated his work to achieving better working conditions for workers in uranium mines in the region as well as generally for economic, social and cultural rights of the rural population. One of his declared goals is to maintain and strengthen the identity of the 32 various indigenous tribes, each with their own language, that live in Jharkhand. His actions cover information and demonstrations to blockading mining companies and members of government. For this reason the JMACC established the Jharkhand Organisation of Struggling Humans (JOSH).



SEBASTIAN PFLUGBEIL

Dr. rer. nat, was a Minister in the interim government of the former GDR under Modrow (1990) and a member of the Berlin Parliament (1990-1995). He worked for a long time as a physicist on pure medical research. For the past 30 years, Sebastian Pflugbeil has been occupied with educating the public on the effects of nuclear weapons and the risks of nuclear energy. He was one of the founders of the “Neues Forum” (the group that campaigned for more freedom in the GDR) and was particularly active in working for the closure of East German nuclear power plants and for an end to uranium mining in Wismut. Sebastian Pflugbeil is one of the co-founders of Tschernobylhilfe (Aid for Chernobyl). Today he is the President of the Society for Radiological Protection in Germany and co-editor of the magazine STRAHLENTELEX. His main topics of work include: criticism of the German Radiation Protection Ordinance, the risks of low-level radiation, radioactivity and secret service, the effects of nuclear weapons, nuclear weapons policies in former West Germany, the effects of Chernobyl, nuclear victims and education on the background to the leukemia clusters in the area of the Elbmarsch. www.gfstrahlenschutz.de www.strahlentelex.de



MANUEL PINO

Manuel Pino comes from Acoma Pueblo, an Keresan adobe village west of Albuquerque in the US state of New Mexico. At the beginning of the 1950s the earth in the region was torn apart by the Jackpile-Paguate Mine, America’s biggest open-pit mine for uranium extraction, and a mill for producing yellow cake (commercial uranium) was established. Resistance to the mine and its operator – the Kerr-McGee company – took over Pino’s life from this moment on. He chose the destructive effects of uranium extraction on Indian culture as the subject of

his dissertation on sociology. At the World Uranium Hearing in 1992 in Salzburg, he provided a strong voice for the victims of the uranium boom. Today he is Professor of Sociology at the Scottsdale Community College in Arizona and dedicates himself to ensuring that the next generation take up resistance to nuclear energy and nuclear weapons. Manuel Pino received the Nuclear Free Future Award 2008.



HILMA KUPILA MOTE

is the Director of the Labour Resource and Research Institute (LaRRI) in Windhoek, Namibia. The publication of her report „The Mystery behind Low-Level-Radiation“ (2008) on uranium mining in Namibia, a conference and a speaking tour, organised by Earthlife Namibia and WISE, with the title „Uranium – Blessing or Curse?“ allowed the issue to become known to the public. Ms Mote has often taken part in international events, including a tour of Germany of people affected by uranium mining. Her research is not limited only to the health effects on the miners but also covers the causes and effects on the whole of society of mining.

Hilma Mote is a founding member of the African Uranium Alliance, which received the Nuclear Free Future Award 2010.

www.larri.com.na

http://www.uranium-network.org/index.php?option=com_content&view=article&id=25:the-myth-behind-low-level-radiation&catid=32:allgemeine-situation-im-land&Itemid=32

JUSTIN O'BRIEN

is the Executive Officer of Gundjehmi Aboriginal Corporation which represents the Mirarr, Traditional Owners of large parts of Kakadu National Park including the Ranger and Jabiluka mineral leases. He has worked to support and realise the rights and aspirations of Indigenous Australians for over two decades.

www.mirarr.net

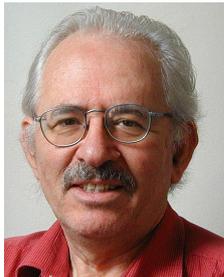
DAVE SWEENEY

has been active in the uranium mining and nuclear debate for over two decades through his work in Australia and overseas with the media, trade unions and environment groups on mining, resource and Indigenous issues. He is a national nuclear campaigner with leading national environment group the Australian Conservation Foundation and holds a vision of a nuclear free Australia that is positive about its future and honest about its past.



CHAIRMAINE WHITE FACE

is from the Black Hills (He Sapa), a range of mountains in the border country between the US states of South Dakota, Montana und Wyoming – called in her tribal language Lakota, Dakota und Nakota, the heart of everything that is (Wamakas og'naka i'cante), the birth place of her people. The US government legally recognised the tribes of the Black Hills in a treaty until gold and later uranium were discovered there. Uranium mining in the South and West of the mountains led to a severe radioactive contamination in the eighties. Even today, the boreholes, slagheaps and tailing ponds remain unnaturalised and contaminate the environment with radium 226, arsenic and lead. This is what led Charmaine White Face and others to form the organisation »Defenders of the Black Hills«. Whether attending scientific symposia, in front of a court of justice, on a panel with representative of the uranium industry or at the mike of the Lakota KILI Radio, it is important to the biologist and author Charmaine White Face that alongside the scientific reasoning of her arguments, the philosophy of her people is heard. She received the Nuclear Free Future Award in 2007.



ROBERT DEL TREDICI

is a photographer and the co-founder of the Atomic Photographers Guild. He was born in 1938 in Cloverdale, California, and lives today in Montreal, Canada. Since the accident in 1979 at Three Mile Island Del Tredici has documented the nuclear industry. In his book, „At Work in the Fields of the Bomb“, he published many of his pictures and received the Olive Branch Award in 1987 for his contribution to world peace. He began to tour the US, Canada, Japan and Europe and to take pictures of places and people that had something to do with the nuclear issue. In this way he gave nuclear technology that has changed our environment a face. As well as „At Work in the Fields of the Bomb“ Del Tredici published „The People of Three Mile Island“ in 1980 in San Francisco.

DECLARATION OF BASEL / BASLER ERKLÄRUNG

Summary statement presented at the conclusion of the conference, „Sacred Lands, Poisoned Peoples – Uranium Mining, Health and Indigenous Peoples“, (Pre-Conference of the IPPNW-World Congress 2010) Universität Basel, Switzerland, 26 August 2010

PREAMBLE

The gathered are unanimous in the judgment that uranium mining and milling in the production of uranium oxide (yellowcake) imperils the environment and all its living creatures, is a violation of human rights, and in its consequence undermines nuclear disarmament and deters world peace.

The gathered unanimously avow that a technology that produces energy reliant on the mining and milling of uranium ore with all its toxic consequences for all of life today and for the coming generations must be dismissed as a short-sighted miscarriage of science and immediately scraped, ended.

The gathered are one in their recognition that, alongside the host of tragic case studies presented at this conference, the most overwhelming injury to life, justice, and human understanding will come from the side of the perpetrators in government and the nuclear industry who ignore or dismiss personal testimony, obfuscate numbers, and cloud impeachable evidence, washing their hands of all wrong-doing.

DECLARATION

The gathered – the majority of whom are representatives from Indigenous Nations scattered across five continents – reaffirm the Declaration of Salzburg, which was drafted at the conclusion of the World Uranium Hearing in September, 1992, and adopted in August, 1994, by the UNO Human Rights Commission in Geneva with the number E/CN.4/Sub.2/AC.4/1994/7, 6 June 1994 as a UN-document. (See attachment).

Owing to the creep of radioactive contamination around the planet, the gathered additionally wish to make known and warn of the following developments that have arisen in the nuclear industry since 1992:

- In situ leach mining is presented as a non-invasive superior process of mining uranium that leaves the surface of the land untouched. With this method the uranium is extracted chemically from the ore body in the earth and pumped to the surface. The chemical substances used in this process of separation are toxic and remain underground. In situ leach mining permanently endangers the groundwater table.
- The tailings resulting from conventional uranium mining contaminate large reaches of land, endangering all life in the region; no continent escapes this toxic burden. The renaturation of the land once mines are closed must be the responsibility of the uranium mining concerns; such renaturation must be accomplished with state-of-the-art technology in accordance with the latest scientific findings on life-threatening radiation threshold levels.



- Boundaries are by nature superficial and cannot halt the spread of radioactivity. Yet uranium mining licenses are granted allowing uranium mining to be conducted on lands directly bordering Indigenous territories and Indian reservations. Radioactivity heeds no lease or title of land.
- Commons are the natural resources of the earth for which everyone must share custodial responsibility, first and foremost our air, our water, our earth. Indigenous peoples urge a radical shift in ecological thinking whenever and wherever they meet with representatives of industrial nations. The mining of uranium, the use of depleted uranium (DU) munitions, and the storage of radioactive wastes, permanently endanger the purity of the commons.
- Sacred Sites / Sacred Lands. When nothing more is treated as holy, than everything is at risk. In the absence of the sacred, nothing can hinder the destruction of the commons. The spiritual bond with the earth and the recognition of all living creatures' fundamental rights are vital elements of the Indigenous world-view. The protection of the sacred sites of Indigenous cultures cannot be solved by any measure of law; the decision makers of industrial nations are called upon to understand the ethical concepts of indigenous peoples as basic principles for achieving a sustainable economy and as environmental guarantees for a livable future.
- Follow-up costs of uranium production include the renaturation of the mining region, the compensation of all victims, and the payment of all health expenses for those at risk now, as well as the coming generations so long as need arises.
- Advertising campaigns funded by the nuclear industry are meant to convince populations to embrace nuclear power. Here it is essential that people at every level receive clarification, and that such disinformation is corrected. Nuclear power is neither a „green energy“ nor a „climate savior.“ Any story of sustainable uranium mining is an impossible fiction. Only by ignoring and evading all follow-up costs can the nuclear industry propagate the notion that nuclear energy is people friendly.
- Protection of workers: the resistance against uranium mining cannot ignore the issues of those people for whom uranium mining and milling represent the sole means of economic survival. Their protection at the workplace, the recognition of their work-related infirmities, and their on-going medical care, must be demanded with the same insistence and pressure as any campaign to prohibit new uranium mining.

ADDENDA

Although this conference focuses exclusively on the extraction of uranium ore from the earth, the gathered wish to additionally draw attention to two aspects regarding nuclear weapons:

- Depleted Uranium (DU), a plentiful waste by-product of the uranium enrichment process used to fuel nuclear power plants, is used to densify ammo casings, turning ordinary shells into *de facto* dirty bombs. The radioactive, toxic nano dust set free in battle theaters contaminates entire regions for generations after the hostilities are ended.

- Spread of nuclear technology and consequent proliferation of nuclear arms. The civil and military uses of the atom are closely twined. The IAEA's mission to champion nuclear power, yet at the same time control nuclear weapons proliferation, is deeply schizophrenic. More nuclear states or powers means more demand for uranium.

CONCLUSION

The Declaration of Salzburg ended with the appeal: „Uranium and other radioactive minerals must remain in their natural location.” At the Indigenous World Uranium Summit, 2006, in Window Rock, Arizona – on the land of the Diné Nation – those assembled made the demand in their concluding declaration that all uses of uranium must be prohibited.

Those gathered here at Basel, supported by their communities in their homelands, reaffirm both declarations, and summarily proclaim:
Uranium and all radioactive substances must remain in the earth.

THE WORLD URANIUM HEARING

Having met at Salzburg, Austria, from 13 September to 18 September 1992;

Having heard testimony concerning the environmental, cultural, spiritual, physiological, and economic impact of the use of radioactive substances from all regions of the world; and having heard the results of related discussions following the World Uranium Hearing, in over one hundred communities worldwide;

Convinced of the inherently destructive nature of all phases of the nuclear chain and that nuclear contamination is a threat to all peoples and environments irrespective of political boundaries;

Acutely aware that indigenous peoples have suffered particularly devastating consequences from the extraction and utilization of nuclear substances;

Reaffirming that the survival of indigenous peoples requires respect for their rights of self-determination and to territorial and environmental integrity;

Observing that the spiritual and cultural values of indigenous peoples in their relationship with the natural world offer a perspective capable of transforming prevailing destructive materialistic attitudes and practices;

Recalling the disastrous impact of nuclear weapons testing on indigenous and other land-based peoples in such places as Nevada, Bikini and Eniwetok, Tahiti, Maralinga, and Central Asia;

Deeply moved by the horror of Hiroshima and Nagasaki which marked the opening of the nuclear era;

Alarmed by the experience of Chernobyl and Three Mile Island;

Convinced that there is no completely safe technology for the containment of radioactive substances;

Dismayed by distorted economic values and priorities, including inappropriate consumption patterns, which threaten a sustainable future;

Apprehensive of the fate of future generations confronted with the intractable consequences of nuclear development;

Determined to end the danger posed by the entire nuclear chain and to ensure an enduring harmonious relationship with the natural world;

Solemnly declares:



I. GENERAL PRINCIPLES

1. The natural world, in its richness and complexity, is the foundation of all life.
2. All peoples and individuals have the fundamental right to a safe and healthy environment and the corresponding duty to maintain the integrity of the natural world.
3. Each generation bears the obligation of effective stewardship for the benefit of future generations of all living beings.

II. THE PROCESS OF NUCLEAR DEVELOPMENT

Exploitation, Mining and Processing

4. The mining and processing of uranium and other radioactive minerals result in the contamination and degradation of large ecosystems.
5. Radioactivity and chemical pollutants contained in tailings are spread by the flow of ground and surface waters and by wind currents.
6. Inhabitants of affected areas risk immediate and lasting health and genetic consequences from exposure to radioactive substances. Miners are exposed to particularly intensified levels of radiation.

Military Uses

7. Over time, nuclear weapons testing has produced atmospheric fallout, contamination of land and sea areas, forced removal of peoples, cultural disintegration, and a range of adverse health consequences, in particular cancer and threats to genetic inheritance.
8. The development of thermonuclear weapons involves the production of large quantities of fission products and plutonium, the most toxic substance known; plutonium persists in the environment for up to hundreds of thousands of years.

Nuclear Power Generation

9. Nuclear power facilities, whether civilian or military, produce emissions of radiation and inevitably pose serious and unacceptable risks, including transportation spills, theft of radioactive materials, accidents that spread contamination over vast regions, and the catastrophic effects of a reactor core meltdown.
10. No nuclear power plant has ever been safely and completely decommissioned. The ultimate environmental and economic costs of decommissioning remain incalculable.

Nuclear Waste

11. No safe method for the disposal of medium and high-level nuclear wastes has been devised. Solutions offered can only provide for storage or dumping, which carry an ever-present risk of lethal contamination.

12. 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.

III. INDIGENOUS PEOPLES

13. Vast quantities of the world's uranium resources are located and extracted in the territories of indigenous peoples; these territories are often exploited for weapons testing and the storage or dumping of nuclear substances. In violation of their right to self-determination, indigenous peoples have been victimized by dispossession and force removals, direct contamination, and the desecration of sacred sites.
14. The dispossession of peoples and the destruction of the natural ecology that result from the nuclear chain imperil the social cohesion and the cultural, material, and spiritual relationship with the natural world upon which indigenous survival depends.
15. In order to defend themselves against the physical and cultural genocide that results from nuclear development, indigenous peoples must be able to freely exercise their right to determine and control, without external interference, all matters relating to their societies and territories.

IV. ECONOMIC POLICY

16. The monetary price of nuclear energy does not reflect the cost of damage to the biosphere and the profound risks to present and future generations;
17. Governments, communities, organizations, and individuals have a duty to ensure that energy is produced and used in a clean, safe, and efficient manner; the global ecology cannot support inappropriate energy consumption patterns.
18. The view that unlimited economic growth can be sustained on a habitable planet is fallacious and constitutes a significant threat to future generations.
19. Current international policies perpetuate unjust economic disparities which cause developing countries to adopt destructive environmental practices such as uranium mining, nuclear power generation, and the provision of dumping sites for radioactive waste. Sharing safe and efficient energy technologies is essential for equitable and environmentally sound economies in those countries.
20. The Precautionary Principle, as recognized by the international community, requires that the safety of potentially dangerous activities must be conclusively established prior to taking and measures toward their implementation. In the case of the nuclear chain, any reasonable application of the Precautionary Principle would require that uranium and other radioactive minerals remain undisturbed in their natural location.

V. RECOMMENDATIONS

The WORLD URANIUM HEARING calls upon governments and, within their respective spheres of responsibility and competence, trans-national and other corporations, organizations, communities and individuals

1. To recognize and respect the inherent right to self-determination of indigenous peoples, including their right to determine and control, without external interference, the nuclear process as it affects their societies and territories,
2. To provide reparations for peoples, communities, and individuals victimized by the mining of radioactive minerals, the use of nuclear weapons, or the storage or dumping of nuclear waste. To make every conceivable effort to alleviate risks and damage caused by past and existing uses of radioactive materials,
3. To ensure that liability for social and environmental damage resulting from the nuclear chain is jointly born by those controlling all its phases,
4. The integrity of the natural world should be recognized juridically and be enforceable in its own right,
5. The lands of Indigenous and other land-based peoples, contaminated by nuclear development must immediately be rehabilitated to as near as practicable to their pre-contaminate state,
6. To fundamentally alter existing economic and political policies and institutions to ensure ecological sustainability; energy development must shift to the use of safe and renewable resources,
7. To provide assistance, including financial resources where necessary, for the development of alternative energy programs in countries which utilize nuclear power,
8. To ensure that any economic analyses of the nuclear chain fully account for the entire ecological and social impact of radioactivity,
9. To provide peoples, communities, and individuals with complete information about the dangers of radioactive substances in all phases of the nuclear chain,
10. The separation of plutonium from spent fuel, its transformation and use in breeder reactors, nuclear power plants, or nuclear weapons constitutes an unacceptable threat to humankind and the planet,
11. To support and promote community activities and resistance aimed at ending the use of radioactive substances,
12. To promote international and national standards, policies, and practices designed to ensure that:
 - a) radioactive minerals are no longer exploited; and
 - b) existing radioactive products of the nuclear chain are dealt with according to the safest available technology irrespective of monetary cost,
13. To immediately cease production and testing of nuclear weapons; the process of global nuclear disarmament must continue to completion. All nuclear facilities utilized for military purposes should immediately cease operation.

URANIUM AND OTHER RADIOACTIVE MINERALS MUST REMAIN IN THEIR NATURAL LOCATION

The Declaration of Salzburg was accepted by the UN-Working Group on Indigenous Peoples, and it is now a UN-document, available in English, Spanish, Russian and Chinese. It can be obtained from the Center for Human Rights, Palais des Nations, Geneva, Switzerland,
File# E/CN.4/Sub.2/AC.4/1994/7 6 June 1994

Additional Statement of the Indigenous Delegations

We continue to maintain our rights as peoples, despite centuries of deprivation, assimilation and genocide. We still have the right to decide our own form of government, to use our own laws, to raise and educate our children to our own cultural identity without interference. We maintain our inalienable rights to our land and our territories, to all our resources above and below and to our waters. We assert our ongoing responsibility to pass these on to the future generations. We cannot be removed from our lands. We, the indigenous peoples, are connected by the circles of life, to our lands and our environments. We, the indigenous peoples, walk to the future in the footprints of our ancestors. As indigenous peoples, we declare:

We the Indigenous People of the different communities of the Earth, our mother, affected by the nuclear fuel chain, conscious of our undeniable right for self-determination, our right for a clean environment, concern for our health and well-being and for our future generations, find that:

- based upon the testimony and experiences of
- based on the evidence of damage to our people, culture, economy, land, water and air;
- based on our respect for spiritual values, beliefs, practices

we cannot tolerate the destruction of our existence.

We demand:

- No more exploitation of our land and people by uranium mining, waste dumping and nuclear testing.
- Clean up and restore our homelands.
- Fully disclose all information about the nuclear industry and its dangers.
- Provide full and fair compensation for damage to
 - *our people, families and communities,
 - *our culture and economy,
 - *our homelands, water, air and all things living.
- Provide independent and objective monitoring of our health and our lands.

We further say:

In view of the unity of humanity and the world, we appeal on behalf of our future generations to use sustainable, renewable and enhancing energy alternatives. We ask the whole world, including leaders and scientists to share in our vision for peace, harmony and respect for life.

Join us!

HANDOUT: HEALTH IMPLICATIONS OF URANIUM MINING

Human Health Implications of Uranium Mining and Nuclear Power Generation

Authors: Dr. Cathy Vakil M.D., C.C.F.P., F.C.F.P.

Dr. Linda Harvey B.Sc., M.Sc., M.D.

<http://pgs.ca/wp-content/uploads/2008/03/human-health-implications2009-21.pdf>

Radiation: (for references, go to the website above)

There are three types of atomic radiation of concern to human health and safety in regard to uranium mining and nuclear power generation: alpha, beta and gamma radiation. Alpha and beta radiation involve high-speed electrically charged particles with mass, and gamma radiation involves electromagnetic energy. Neutron radiation is a fourth type of atomic radiation, involving particles with mass but no charge. All are capable of displacing electrons from atoms and molecules, and are referred to as ionizing radiation.

Alpha particles, composed of 2 protons and 2 neutrons, and being bulky, are the most biologically destructive of the three. They are up to 20 times more damaging to intracellular structures than gamma rays. They were once considered to be safe by the nuclear industry because they do not normally penetrate skin. Ingested or inhaled, however, and positioned within living tissue, they discharge their alpha particles directly into the structures of the cell, damaging the cell's contents, including mitochondria, enzymes and DNA. Radon, the second leading cause of lung cancer after smoking, is an alpha emitter, as are plutonium 239, uranium 238, uranium 234, thorium 230, radium and polonium.

DNA damage is repairable by the cell, but alpha particles are more likely than other forms of radiation to cause double-strand DNA breaks which are not readily repaired. Attempts at repair can lead to deletions, inversions, acentric fragments and cross-linking, as repair enzymes try to work with missing and scrambled pieces. Damaged DNA can trigger diseases in humans such as cancer (13), teratogenic effects including mental retardation and birth defects (14), chromosomal abnormalities (15) and inheritable disease (7,13).

Beta particles are high-speed electrons, with a small amount of mass and considerable energy. Their effects on biological tissue are somewhat intermediate between alpha and gamma radiation, although closer to those of gamma radiation.

Gamma rays are very high-energy photons with good penetrating power and mass. They are similar to X-rays. They are more likely to cause single point damage in DNA, and single-strand DNA breaks which are more readily repaired. If the repair is imperfect, a mutation arises and persists. There is evidence



that gamma rays may also be absorbed by certain structures in the cell and give rise to local cascades of high energy electrons which can be more damaging than the gamma ray itself (16). As well as being emitters of alpha radiation uranium atoms lodged in tissue can absorb gamma rays in this way, and produce such electrons. To the extent that it occurs in living tissue, it may make uranium more genotoxic than previously suspected. The techniques necessary to properly investigate these genetic effects are in the process of being developed.

Natural background levels in most parts of the world are considered to be in the order of 2.4 mSv/yr, with about 1.0 mSv being gamma radiation, mostly from cosmic rays, and the remainder being alpha radiation, largely from radioactive radon gas. This varies somewhat with elevation and other geographic features. Background levels of radiation are thought to contribute to background rates of cancers and genetic defects, and the aging process. According to nuclear regulatory agencies, an acceptable exposure for the public is currently an additional 1.0 mSv/yr above background. It must be borne in mind that any exposure created by human sources, such as nuclear weapons testing fallout or emissions resulting from nuclear reactor accidents, will be added to background exposures.

Nuclear industry workers are allowed to receive 20 mSv/yr averaged over 5 years. Such an exposure, according to ICRP 60 guidelines (17) would be expected to generate 3.2 excess cases of fatal cancer per 100 workers over a 40 year career. This is in contrast to other industrial toxicological situations in which 1/10,000 to 1/million fatalities are considered acceptable (18).

At the low, chronic levels of exposure relevant to uranium mining and nuclear power installations, the principal radiation effects of concern are cancers, genetic damage, birth defects and mental retardation due to in utero exposure. Other more subtle and less well studied effects of radiation include a general life-shortening effect, and a role in some forms of immune system dysfunction, such as autoimmune disorders and decreased resistance to disease. Intracellular free radicals, well known byproducts of ionizing radiation acting upon tissue, play a role in generating oxidative stress which accounts for an increase in disorders such as atherosclerotic vascular disease (19). Even diabetes has been linked to radiation exposure in some studies (20).

Damage to the DNA of germ cells (eggs and sperm) by ionizing radiation can be passed on to future generations, and can be expected to give rise to increases in levels of malformations and genetic disease. Initially, much of this genetic damage will likely be silent. The human body has two copies of every gene, except those on the X and Y chromosomes in the male. Damaged recessive genes, with undamaged partners that can take over function, will go undetected, until they accumulate in a population to the point where two of these recessive genes end up in the same person at the same time, one from each parent. Even then, many of these mutations will be lethal to the developing embryo and will manifest not as defective offspring but as reduced fertility or early miscarriage, events easily missed in epidemiological studies. It must be kept in mind that eggs develop in a female fetus' ovaries during gestation. Therefore a pregnant woman's exposures may affect not only herself and her children, but her grandchildren as well by damaging the eggs in her unborn daughter's ovaries.

The mutagenic effects of radiation in fruit flies were demonstrated as far back as 1928 by Hermann Muller (26). More recently, Cornelia Hesse-Honegger has documented patterns of malformations in insects throughout Europe based on proximity to nuclear facilities (27). These observations raise concern about the effects of radiation from nuclear facilities on human reproductive cells, and on fetuses due to prenatal exposure.

Uranium mining is the messiest and most contaminating stage of nuclear power generation. Yet, without it, the whole process cannot go ahead. The cost to the global environment, and to persons, of this stage must be factored into the cost of nuclear power generation.

Uranium mining, in particular open pit mining, which is what is currently proposed in several locations in southern Ontario, involves digging thousands of tons of radioactive rock out of a giant hole. (The Rossing uranium mine in Namibia is 1 km wide, 3 km long and 1/3 km deep (28)). Large quantities of this rock are dumped onto the earth's surface. The ore is then transported to a milling facility, usually nearby, and crushed to a fine sand-like consistency, creating radioactive dust and finely ground mill tailings. The uranium is separated out, usually with strong acids or alkalis. The sand-like tailings, containing about 85% of their original radioactivity, and often the chemicals used in the extraction process, are deposited in large tailings ponds or containments nearby.

Dust containing uranium and its progeny is produced in large quantities by rock-crushing operations. This particulate matter, containing long-lived radioactive isotopes, can leave the site on wind. Wind erosion of tailings piles can be significant as long as these remain exposed to weather. Radon gas is continuously produced by the decay of thorium 230, a radioactive decay product of uranium 238, through radium into radon. Thorium 230 has a half-life of 76,000 years, and will produce radon gas unabated for millennia.

In undisturbed uranium deposits, most of the radon gas is trapped within rock formations until it decays into other radioactive byproducts. However, crushed tailings on or near the earth's surface allow considerable radon to escape. In a 10 km/hr breeze, it can travel 960 km within 4 days; much further in higher winds. Radon gas decays sequentially into several other solid radioactive isotopes of polonium, bismuth and lead, before finally becoming the non-radioactive lead 206. These radioactive progeny of radon settle onto crops, bodies of water and soil. Their patterns of accumulation in the biosphere, including our food species, are not well known. The three isotopes of polonium produced by radon, in addition to being radioactive, are among the most toxic naturally occurring substances on earth. The toxicity of lead is well documented.

Radon is a major contributor to the excess of lung cancer seen in uranium miners (4, 5, 6). Radon at levels seen in some residences also carries a risk (29). Radon emanations from bedrock in certain areas may be unavoidable, however these can be greatly increased in the presence or proximity of crushed mine tailings or abandoned mine workings which provide pathways of migration

to the surface. Some high residential radon readings are being found by homeowners near old mine sites in the Bancroft/Haliburton area (30). Groundwater and surface water in the vicinity of uranium mining operations frequently become contaminated (31). At the advanced exploration stage of mine development, holes about 1-2" in diameter and up to 1200 feet deep are drilled into rock, usually into the most concentrated deposits. A hole of this depth is almost certain to penetrate aquifers, giving water access to radioactive rock surfaces. Many uranium compounds and decay products are soluble, toxic and radioactive. In an area of fractured granite bedrock, as found in some uranium bearing areas of Ontario, many of the aquifers interconnect and contamination quickly becomes widespread.

Uranium is a heavy metal which means that it is toxic in addition to its radioactivity. In drinking water, at levels in excess of the safe drinking water standard of .02 mg/L or 20 ppb, it is principally toxic to the kidney, in particular the proximal tubules (32). Uranium can also affect fertility, fetal growth and postnatal viability (33). It may cause malformations in fetuses and might be associated with reproductive cancers. It concentrates in bone and may interfere with the activity of osteoblasts, possibly contributing to bone cancers and osteoporosis (32).

Uranium in well water is often associated with some of its highly dangerous daughter elements such as radium and radon (18). Their combined radioactivity may be a limiting factor in water quality. Radon in well water is a significant contributor to radon levels in houses (34).

During the operation of a mine, the use of copious amounts of water to control dust, or to create a slurry for the extraction of uranium, can contaminate large quantities of water, which then need to be disposed of. Tailings impoundments containing liquid material can leach contaminants into the soil and groundwater. Tailings dams can fail, releasing massive quantities of radioactive material into local waterways (35). Near the decommissioned mines at Elliot Lake, tailings piles were covered with water to prevent the escape of radon gas, a standard procedure. Recent drought has caused serious difficulties with this maintenance protocol. A mere 15 years into the thousand-year period for which it was designed, this environmental safeguard system is underperforming (36). Over 100 million tons of uranium tailings are stored in the Elliot Lake area (37).

Dry piles of uranium mill tailings are subject to erosion by wind and water. Tree roots and plants take up this radioactive material, often concentrating it (38, 39), and are eaten by biological organisms - birds, insects, mice, deer, etc. - which disperse it in their feces or their bodies. Root systems help to bring radon up to the leaves where it can be transpired into the air.

In Ontario, near Bancroft and Haliburton, there are about 5 million tons of uranium mine tailings. Many of these were abandoned by mines which closed before 1977, and as such they are under the jurisdiction of neither the federal nor the provincial governments (40). In 1977, the federal government created the Atomic Energy Control Board (AECB), later replaced by the Canadian Nuclear Safety Commission (CNSC). Uranium mines thus fell under a federal

mandate, whereas before this they were a provincial responsibility. Because of this shift, federal and provincial agencies have been locked in a jurisdictional struggle over these older mine tailings. As a result, according to a study by the Canadian Institute for Radiation Safety (CAIRS) (40), many of the tailings “have not undergone any remedial work designed to place them in a safe condition.”

Tons of radioactive rock are laying around unprotected, with contaminants leaching out, wind blowing dust, radon gas escaping, fencing and signage falling into disrepair and the area being used more and more for hunting, hiking and recreation. It is possible that fill is being taken for construction purposes from unmarked radioactive sites.

What are the risks from these tailings? According to the CAIRS study, a person walking over a typical tailings pile for 1 hr every day will absorb a gamma radiation dose of, on average, 0.73 mSv/yr (41). This would be in addition to the ~1.0 mSv/yr of background gamma radiation we all receive. Consider that doubling a person’s exposure will in general double his/her cancer risk, and that this person will also be exposed to higher than normal levels of radon gas near the tailings.

If a house were built on the tailings, or if substantial amounts of radioactive fill were used near this house, or to mix concrete for the house, and a person or family spent between 8 and 24 hrs/day in this house, their radiation exposure could be substantial. It might well be over the maximum of 1.0 mSv/yr above background recommended for the general public (8). (In this scenario, it could be up to $0.73\text{mSv/yr} \times 24 = 17.52$ mSv/yr per person.)

Use of contaminated materials in construction has been a problem not only in the Bancroft area, but in Elliot Lake, in Port Hope, where there is a uranium conversion facility dealing with highly radioactive material, and in the United States in Navaho territory where there was intensive uranium mining in the past (42).

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