Report on the Conference on the Human Right to a Safe and Healthful Environment and the Responsibilities Under International Law of Operators of Nuclear Facilities, Salzburg, Austria, 20-23 October 2005

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The report was commissioned by the Nuclear Waste Secretariat of the Swedish Environmental Movement (MILKAS). It is based on the oral as well as the written presentations. Where the oral presentations differ from the written presentations, preference has been given to the written presentations. Most of the presentations can be found at the PLAGE Conference Website: www.updatingnuclearlaw.at

The conference was organised by PLAGE - *Salzburg Platform Against Nuclear Dangers* - a regional anti-nuclear organisation in Austria also active on the national and international levels.

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1. The conference was opened by the Deputy Governor of the Salzburg Region, *Dr. Othmar Raus,* who praised the Salzburger tradition of dealing critically with nuclear issues. The conference coordinator, *Heinz Stockinger*, then outlined the history of PLAGE mentioning among others its initiatives regarding the Temelin question, the reprocessing plant at Wackersdorf, the World Uranium Hearing which was held in Salzburg and lead to the Declaration of Salzburg, as well as its role in initiating the concept of KOALA, the Coalition of Non-nuclear Countries (NoNuCC).

I. PANEL ONE – THE NATURE OF THE PROBLEM

Chair: *Jon Van Dyke*, University of Hawaii Law School

2. *Jon Van Dyke*, University of Hawaii Law School, described "the nature of the problem" which the conference would concentrate on by bringing experts and practitioners together in order to develop and enhance the international legal basis for anti-nuclear campaigning.

3. *Dakibor Strasky*, Nuclear Engineer and Consultant to the Czech Environment Ministry, gave a presentation on **"The Safety Concerns Presented by the Temelin Nuclear Power Plant, Czech Republic,"** a partly government owned NPP which – due to its location in a border region – for many years has attracted significant attention from the Austrian public. Dakibor Strasky focussed on the plant's the technical details, giving an extensive description of its weak points. The Temelin NPP consists of two Soviet type WWER-1000/312 boiling water reactors. The total electrical output of the reactors is 1824 MW. After the fall of the iron curtain, the control system has been updated by Westinghouse. In spite if this, the technology does not reflect the current technological standard and does not live up to recommendations from the IAEA. Numerous times the Czech nuclear regulatory authority has faced problems with the safety culture and the quality level in general at the plant. E.g., there are significant problems with the high neutron flux on the wall of the reactor tank and the integrity of the steam and feed-water pipes. The containment does not meet modern safety demands. There have been numerous incidents in the plant, mainly due to the unreliability of the control systems and the safety culture. According to a German study, a serious accident with a reactor core meltdown will contaminate the soil with Caesium-137 with more than 1000 Bq/m2 at a distance of more than 100 km. According to GRS, the reactor containment, which does not live up to German regulations, cannot withstand an airplane crash. In the worst scenarios there would be a penetration after 4 hours. Temelin's emergency zone is very small (only 13 km in circumference) whereby all the larger cities in the area have been excluded from emergency planning. The spent fuel is deposited at an intermediate storage facility at the plant. There is still no final HLW repository in the Czech Republic. Two suitable alternative locations have to be found by 2015 and a final decision has to found before 2025. The HLW final repository has to be completed in 2060. So far, the localization process has been slowed down by public resistance. Other types of nuclear waste are stored at the Dukovany nuclear power plant. Currently, there is storage capacity for 10 years of operation. The Czech Nuclear Act does not require a concrete management plan for decommissioning of nuclear installations before they are brought into operation. So in Temelin's case they do not exist. Dakibor Strasky's conclusion is that there exists a significant and unacceptable threat potential with respect to the population and the environment.

4. *Dana Kuchtova*, Chairperson of the South Bohemian Mothers Opposed to Temelin, gave a lecture on **"Legal and Political Actions Related to the Temelin Plant,"** continued the description of the problems related to Temelin and Dukovny NPPs and touched on the subject of uranium mining, which takes place at several places in the Czech Republic and is expected to continue. New possible mining locations are sought after and investigated. Dana Kuchtova gave a description of the Czech anti-nuclear movement, its history, activities and working conditions. The movement has benefited from new environmental laws in the nineties, which enabled anti-nuclear NGOs to obtain vital information on the Temelin project, especially with respect to alterations and modifications of the installations during the construction process, and to complain and initiate litigation. Complaints concerning the size of the Temelin evacuation zone is still pending. In all, 20 administrative complaints have been filed and 2 complaints at the Human Rights Court in Haag. However, there is still a lack of information on vital issues.

5. *Alla Yaroshinskaya*, President of the Ecological Charity Fund and Co-chair of the Russian Ecological Congress, gave a lecture on **"The Juridical Lessons Learned from the Chernobyl Accident and the Legal Framework Needed to Deal with Future Accident."** She started out by giving an elaborate personal account of her experiences with the Chernobyl disaster, working as a journalist at the time, but unable to publish her articles because of the political situation in the country. Elected into Parliament as a supporter of Gorbachov she continued to deal with the problem and set up parliamentary groups focusing on Chernobyl. Trying to throw light on the effects of the disaster, she lobbied the Communist authorities and not least KGB in order to get them to make public documentation on Chernobyl, in the process revealing systematic distortions of facts, cover-ups and abuse of power. Among others she was involved in publication of secret Politbureau documents. Despite the fact that the capacity of the USSR nuclear industry grew every year and active nuclear weapon tests were conducted, the USSR was the only nuclear country in the world without its own laws regulating the use of nuclear energy and its safety. Legislation was drafted two years before the Chernobyl accident, but even after the accident had occurred, it was not implemented due to slow bureaucratic routines. There existed no legal basis for claims in spite of dozens of accidents in both military and civil nuclear installations, some of them causing loss of human lives, as was the case in the Leningrad NPP in 1979. No one were ever held responsible for these accidents. The authorities kept them secret from Soviet citizens and the world community. After the Chernobyl disaster, neither the USSR government nor the local authorities took legal responsibility for any of the ecological, social or other problems caused by the accident. People in the affected areas constantly demanded legal recognition of their health problems, ecological problems in the contaminated areas and compensation for material losses. The first attempt to find a legal solution to the many problems caused by the Chernobyl disaster were bylaws adopted jointly by the Central Committee of the Communist Party of the Soviet Union (CPSU) and the Council of Ministers of the USSR 12 days after the accident. For the first time since nuclear energy was put into use in the USSR decades before, the Ministry of Nuclear Power was founded. A number of other joint decrees by the Central Committee and the Council of Ministers were adopted 1987-1988, aiming at a solution to various problems deriving from the disaster. Only four years after the accident, on 15 April 1990, the first decree on Chernobyl by a legislative body – the Supreme Soviet of the USSR – was adopted. The decree assigned the Council of Ministers of the USSR to define the legal status of the victims and also among others regulated impact mitigation and formation and functioning of state administrative bodies and public organisations in the affected areas. However, none of these measures were

implemented within the anticipated timeframe. However, although it represents a considerable step forward, legislation on Chernobyl has only tackled the ecological problems indirectly. Concluding her presentation, Alla Yaroshinskaya called for more international transparency on the impacts of serious nuclear accidents and a global phase out plan for nuclear power.

6. *Inge Schmitz-Feuerhake* from Bremen University delivered a presentation on **"Summary of Long-Term Risks Created by Prolonged Contact with Low-Level Radiation."** She gave an extensive outline of the history of scientific research in this field, focussing on the gradually emerging insights in the risk of cancer connected with prolonged contact with low-level radiation. Since the seventies, physicists from Bremen University have dealt with the effects of nuclear energy, especially concerning the frequency of child of leukaemia. By implementing the so-called biological dosimetry, several case studies have concluded that child leukaemia can be caused by radiation. This assertion has been contested by international agencies and national authorities such as e.g. the German Radiation Protection Agency who have stated that the alleged correlation between low-level radiation and cancer rates is either purely accidental or can not be explained. *The International Commission on Radiological Protection* (ICRP) has developed a concept of "stochastic" radiation damage, which means that of a lot of people are exposed to a low level of radiation, it cannot be predicted which individuals will be damaged, only a probability factor can be established. The number of cases depends of the collective dose and thus emerges a "threshold value," below which radiation is considered harmless. However, the fact that the risk of cancer connected with prolonged contact with low-level radiation is greater than hitherto assumed is gaining ground. Two milestone events have contributed to this development: The Hiroshima atomic bomb in 1945 and the Chernobyl disaster in 1986. Life-span studies of the acute high dose, externally survivors provide much of the information. Also another development has had a significant importance: In order to avoid endless and fruitless discussions about parameters, Chris Busby from the University of Liverpool has proposed another method in order to make the assessments more realistic. This method has been implemented by the European Committee on Radiation Risk (ECRR), which, which was founded by Busby in 1998 and perceives itself as an alternative to ICRP. The basis of this method is evidence that has been registered by observation in the field of low-level radiation, whereas its origin is not subject to dissention. The following is a comparison between recent risk estimates of ICRP and ECRR: The health effects by chronic low-dose irradiation of a population can according to estimates by ICRP and ECRR result in hereditary diseases (ICRP: 130 cases per 10 Sv – underestimated by factor 100-200), cancer mortality (ICRP: 800 deaths per 10 Sv (5% per Sv). ECRR: Underestimated by factor 100-200), teratogenetic effects (ICRP: in utero exposure, no effect below 100 mSv. ECRR: Cancer malformations, mental retardation, mental disorders, Down's syndrome, childhood morbidity, stillbirths, infant deaths, spontaneous abortions and low birth weight) and non-cancer morbidity (ICRP: No effect. ECRR: High frequency). The conclusion is that ICRP in a lot of areas does not recognise the effects of low-level radiation or even if it does, does not seriously take it into consideration in various contexts.

7. *Chris Busby*, University of Liverpool and Low Level Radiation Campaign (LLRC), gave a lecture on **"The Challenge of Presenting the Risks of Nuclear Radiation in Court Cases."** Busby, who is currently involved in four court cases involving radiation and health issues in England, Ireland and in the USA, emphasised the potential significant role that the legal system might play in the dealing with nuclear radiation problems, but also

pointed out that a major problem in this area is the problem of defining what is scientific evidence and agreeing on who is an expert. Philosophically speaking, it is a question of confronting background science, physics and mathematics reductions and deduction with chemistry and biology empiricism and induction. The concept of absorbed dose as energy deposition averaged across relative massive volumes of body tissue is fundamental to radiation protection standards. However, even bodies such as ICRP and the UK Government's Committee Examining Radiation Risks of Internal Emitters (CERRIE) have acknowledged that, for some kinds of radioactivity within the body, heterogeneity of energy deposition undermines the absorbed dose. The largest discrepancies between risks as conventionally modelled and those predicted by ECRR methodologies concern highly localised energy deposition from particles, notably from uranium and plutonium. As it is now, the risk models presently under-pining legal exposure limits are wrong when applied to internal exposures from fission products. Known fallout episodes have resulted on very low public doses as conventionally modelled, this having large implications for policies on routine emissions, decommissioning practice, reuse and recycling of contaminated materials and radioactive waste. Legislation in the field of radiation risk is presently based on the advice of self-selected, unaccountable and often secretive committees whose publications and advice are not peer reviewed. Briefly touching on some of the most important court cases, some of which he himself has participated in as an expert witness (Sellafield (Seascale) 1993, Reay and Hope vs. BNFL, childhood leukaemia High Court Judge (lost), 1997 Regina vs. Aldermaston, criminal damage, Reading Crown Court Jury (won), 2001, Regina vs. Helen John, criminal charge, London Middlesex Crown Court Jury (won), 2005 Oil pipe workers and EXXON (New Orleans), ECCR, won, etc.), he described the basic dynamics of relevant court procedures and the problem complex reflected in the litigation.

II. PANEL TWO – THE EXISTING TREATY AND LIABILITY REGIMES

Chair: *Heinz Stockinger*, chairperson of the Salzburg Platform Against Nuclear Dangers (PLAGE)

8. *Alexandre Kiss*, President of European Council on Environmental Law and Director Emeritus of Centre National de la Recherche Scientifique (CNRS), gave a presentation on **"State Responsibility and Liability for Nuclear Damage."** The main part of his presentation was dedicated to a draft adopted by the UN International Law Commission on the Responsibility of States for internationally wrongful acts and its affinities with nuclear activities. Generally, The UN International Law Commission draft can be considered an authoritative formulation of existing international law on this subject. Pursuant to the draft, an act of a state, which constitutes a breach of an international obligation of this state and is attributable to it under international law, entails the international responsibility of that state. However, with respect to nuclear activities, the application to this principle raises specific problems such as: (a) The existence of international obligations in force for the concerned state in this field, which would constitute evidence of a "wrongful act" attribution to the state, (b) evaluation of the damage caused by a wrongful act, (c) establishment a causal link, (d) circumstances precluding wrongfulness and reparation for injury caused have to be examined, as well as (e) the questions of cessation and non-repetition of the wrongful act in question. In his presentation, Alexandre Kiss, made the following conclusions: According to Article 46 of the articles of the International Law Commission, where several states are injured by the same internationally wrongful act,

each injured State may separately invoke the responsibility of the State which has committed the internationally wrongful act. This principle, which expresses customary international law, could have been invoked by each State whose territory was affected by the consequences of the 1986 Chernobyl accident. It is characteristic that, owing to the difficulty of establishing the causal link between the explosion and the damage to human health, to flora and fauna and to other natural resources on the one hand and the time which could elapse between the accident and the consequences which it produced on the other hand, the reaction of the international community was the exceptionally rapid conclusion of the two Vienna Conventions on information and assistance.

The last remark summarises in a way the use if international legal rules related to State responsibility and liability for nuclear damage. It is certain that these rules are applicable to such damage. The definition of the damage itself, the conditions of proof given the difficulty of establishing the casual link between the damage and the act, which is supposed to be at its origin, make it, however, very difficult to apply the rules of general international law to nuclear accidents and their consequences. The principle of responsibility for nuclear damage is not denied, but States found it safer to transfer the solution of the problems which it raises from the inter-State level to that of individual claims brought in national jurisdictions, which is a way to replace inter-State relations governed by international public law by inter-individual litigation, which means using the rules of international private law.

Emphasising that there is still much to do at the inter-state level, Alexandre Kiss draws the following conclusions: (1) It is necessary to reinforce the capacity of the institution of Vienna to control and ensure compliance with existing nuclear safety regulations and to develop new compulsory rules in this field, insisting in the responsibility and liability of States in this domain. (2) That states are responsible under international law for any failure to exercise due diligence over the siting and operation of nuclear facilities and the transport and disposal of nuclear wastes. (3) That state parties are responsible for any failure to enforce the Paris and Vienna liability treaties. (4) That operators of nuclear facilities and shippers are strictly liable for any harm caused by their activities. (5) That states are responsible for transfrontier harm at least when it results from negligence or intentional pollution and possibly even for harm resulting from accidents. The current study of the International Law Commission on the latter issue should be followed and supported, with contributions to this work to the extent possible. (6) That the law of state responsibility allows injured states to bring a claim. The problem of defining what constitutes sufficient injury in this field should be further studied. Even states only potentially affected or which cannot prove injury should be able to claim (obligations inter omnes). (7) And that it should be understood that breach of a treaty obligation regarding nuclear activities should permit another state party to invoke state responsibility even in the absence of injury.

9. *Dörte Fouquet*, Attorney from Hamburg and Brussels, gave a lecture on **"The European Union's Actions and Inactions Regarding the Olkiluoto Reactor in Finland and the German Tax-Free Provisions Related to Nuclear Facilities**. On behalf of *The European Renewable Energies Federation (EREF)*, she has recently filed a complaint before the Commission concerning alleged competition distortion with respect to the financing of the fifth nuclear reactor in Finland. Dr. Dörte Fouquet started her presentation by establishing that until 2004 there have been no successful nuclear plant orders in Europe and the US since the early seventies. In 2004 the Finnish utility *Teollisuuden Voima Oy* (TVO) ordered a European Pressurized Reactor (EPR) from the Framatome-Siemens-Areva consortium. However, major lobbying steps towards a renaissance for nuclear power

are now being taken. The background is the Kyoto Protocol, the EU Security of Supply Green Paper, the Eastern European nuclear accession countries and rising oil prices.

Quoting *the Economist* - "More than half of the subsidies (in real terms) ever lavished on energy by OECD governments have gone to the nuclear industry[1]" - she listed several examples of preferential treatment of the nuclear power industry. *Using the US as an example*: Wind, solar and nuclear power got around $150 billion in cumulative US Federal subsidies over roughly fifty years, some 95% of which supported nuclear power. Nuclear power received far higher levels of support per kilowatt-hour generated early in its history than did wind or solar. Between 1947 and 1961 commercial, fission-related nuclear power development received subsidies worth $15,30 per kWh. This compares with subsidies worth $7,19/kWh for solar and 46¢/kWh for wind between 1975 and 1989. In their first 15 years, nuclear and wind technology produced comparable amount of energy (2,6 billion/nuclear and 1,9 billion kilowatt-hours/wind), but the subsidy to nuclear outweighed that to wind by a factor of over 40, at $39,4 billion to $900 million[2].

Who pays for back end costs for Nuclear power plants? *Example UK*: During deregulation of UK power markets and privatisation of nuclear power, the shareholders of British Energy (BE) were initially regarded by the British government as being responsible for these costs. After electricity prices fell and BE collapsed, the government burdened future taxpayers with many of the costs, as much as a century forward. If this had not been done, the book value of BE's equity would have been about (minus) -£3,5 billion. BE's liabilities would have been about minus £3,5 billion higher than their assets. BE's short- and long-term nuclear liabilities are £4199 million. Nuclear liabilities are here expressed in present value terms. Thus, if all the back-end costs were incurred ''today,'' they would total £ 4199 million for the UK alone[3]. Dr. Fouquet's general conclusion: *Nuclear industry can only survive under state protected and not really market-oriented conditions*.

She then proceeded by outlining another case study, namely Germany. Here, money for reserve funds for future dismantling amounts to estimated €30 billion in the hands of four energy companies where two of them hold the major part of it. This is much more than the gross domestic product of for example all three Baltic new EU members put together. It is also more than the two third of all countries on the planet have as gross domestic product. Since the liberalisation of the energy markets these funds enable German companies to go on a huge and extensive shopping spree, especially buying electricity and other companies in Germany and Central- and Eastern Europe but also in other EU countries such as Sweden. This reduces the number of serious competitors drastically and is in breech with the very idea of opening of markets. Completing her case study, Dr. Dörte Douquet poses the question: What if these companies go bankrupt? Who will pay for dismantling in the end (Enron was possible!)?

Touching on the subject of the EU Commission, she pointed out that the Commission continues to discriminate European research for Renewables. It has freely and unashamedly acknowledged that funding for renewables and energy efficiency has dropped from an average of €138 million per year in Research programme FP-5 (1999-2002) to €108 million per year so far in FP-6 (2003-2006). In comparison, the European Commission has proposed to increase the nuclear research budget under the Euratom R&D

[1] The Economist, *Nuclear power Out of Chernobyl's shadow*, May 6th 2004, from the print edition.
[2] Source: *FEDERAL ENERGY SUBSIDIES: NOT ALL TECHNOLOGIES ARE CREATED EQUAL* by Marshall Goldberg, REPP, July 2000 • No. 11
[3] See *Viewpoint, De-regulated electric power markets and operating nuclear power plants: the case of British energy*, James G. Hewlett Energy Information Administration, US Department of Energy, 1000 Independence Ave, SW, Washington, DC 20585, USA.

framework programme from €1352 million in the period 2002-2006 to €3103 million in the period 2007-2011.

After briefly mentioning an open subsidy case before the European Court in the First Instance (*Reserve funds for future dismantling of Nuclear plants in Germany as state aid*, Case EC T-92/02, Stadtwerke Schwäbisch Hall GmbH et alia/Kommission der Europäischen Gemeinschaften, sec. by: E.ON Kernkraft GmbH u.a.), in which a Court Decision is envisaged for 2nd half of 2005, she goes on to describe the "TVO complaint" by EREF before the EU Commission dated from 14.12.2005. The major content of complaint is the following: (1) Syndicated loan-leading bank Bayerische Landesbank in 2003/2004 granting a loan to TVO of € 1,95 billion = more than 60 % of the fixed price contract at an interest of 2,6 %. (2) State export guarantees over €720 million from Sweden and France. (3) Violation by TVO of procurement rules for the energy sector and (4) predatory pricing.

Nor is the TVO EPR venture in Finland without state aid. The new plant project is welcomed by many, including the EU Commission, as a market oriented non-subsidy approach, but this is a fake: Big spenders were the Swedish Government (worth €100 million), the French Export Guarantee (COFACE) granting a non-notified amount of €610 million to AREVA, the second highest ever reported for COFACE. As mentioned above, a banking consortium under direct participation of the public Bayerische Landesbank gave in 2003 or in the beginning of 2004 a €1,95 billion syndicated credit for an interest of 2,6% to TVO. The apparent participation of Bayerische in the deal: 15 -20 %. Dr. Fouquet's conclusion: *There risk of violation of Public Procurement rules by TVO is high.*

Also: With respect to assessment of different support schemes, there are several types of advantages received by the suppliers, which have to be examined by the European Commission: Those granted by a syndicated loan under the leadership of BLB, those granted by the French Export Credit Agency COFACE and those granted by the Swedish Government (via SEK). None of those supports can be seen isolated though but underline the importance of co-ordinated performance. Analysing the apparent details of the loan: 2,6% interest will never allow a normal, adequate return of investment in a market where the average rate is much higher. This is an unprofitable transaction, which a normal commercial bank in the capacity as investor would not have made alone or without specific guarantees or pressure. Especially TVO has poor credit rating, which would obligatory lead to an increased interest rate needs, also in view of the Basle obligation. For comparison with this 2,6 % loan to TVO, a two-year loan for the German republic - and Germany is rated AAA+ - amounted to 2,57%. The selected MFI (Monetary Financial Institutions) interest rate on loans to non-financial corporation over €1 million with an initial rate fixation over five years has been, between August 2003 and September 2003, at 4.3%, according to the European Central Bank[4]. Two major export guarantees help to strike the deal: The Swedish state apparently contributed to a large bank loan share within the syndicates loan from Nordea, in which bank the State is a large owner. SEK – a Swedish 100 % State owned Export Credit insurer - gave according to the government from its private business part SEK and "without any element of State aid"- agreed "on a credit of €100 million to TVO owned by the Finnish State and private companies. The credit is part of a package of offers for the finances of Finland's fifth nuclear reactor, a project of more than £3 billion of which about €2,5 billion will be financed by bank loans. This project opens up for possibilities for Swedish companies to become involved in the

[4] ECB Press release on January 15, 2004, www.ecb.int

building business and for Swedish export companies through deliveries, which will secure jobs in Sweden[5]."

State aid to this project has also occurred in France: AREVA is a Public French Company and COFACE acted in this deal for the French Budget from Public funds: Guarantee has been granted in the 2nd trimester of 2004 for the contract signed between Areva and TVO in the amount of €610 million - such an amount is the second highest ever reported[6]. The "l'assurance-credit export" insures the exporters and banks against the risk of non-payment due to commercial or political reasons under such contracts, which are not insurable on the private market. It focuses on the contracts for equipment and infrastructure of developing countries[7]. This state guarantee for AREVA is the only one granted for any energy project located in the EU[8].

Normally the Commission plays tough on intra Community state guarantees – but here it is apparently not the case. Already in 1977 the Commission made it undoubtedly clear that export aid in intra-Community trade "cannot qualify for derogation whatever their intensity, form, grounds or purpose[9]. This has since been common ruling, as outlined especially in the 1997 Communication of the Commission to the Member States pursuant to Article 93 (1) of the EC Treaty applying Articles 92 and 93 of the Treaty to short-term export- credit insurance[10].

Also, the fixed price contract of €3 billion and the predatory pricing behaviour must be scrutinised by the Commission. Standard & Poor's states already the price of €3,2 billion, according to 2003 figures. Framatome's CEO, Ralf Guldner admitted, that the situation is troublesome for his company, given the rising prices of raw materials. The issue of a fixed price is causing problems within the industry itself. German utilities have told Eléctricité de France that its asking price for a share in an EPR to be built in France is too high. They calculated that the EDF's asking price represents cost per installed megawatt of about 25% higher than the price charged to TVO for building Olkiluoto 3[11]. Westinghouse turned down the TVO deal on the following grounds: "We have decided not to make offer for the reason that it is not possible to recover the initial costs of the project if we are only to build one reactor. Our position is that a series of strictly standardised plants is necessary if nuclear power is to be a competitive alternative to natural gas" (quote: Per Brunzell, managing director of Swedish Westinghouse in Västerås)[12].

Dr. Fouquet went on to analyse some of the legal aspects with respect to the complaint: Regarding the alleged violation of Public Procurement Directive 92/38/EC by TVO, the company itself is not a "public undertaking." However, Article 2 paragraph 1 (b) of the above Directive states that it should apply to "c*ontracting authorities"* which when *they are not public authorities or public undertakings, have as one of their activities any of those referred to in paragraph 2 or any combination thereof and operate on the basis of special or exclusive rights granted by a competent authority of e Member State.*" Art.2 paragraph 3 states that a *contracting entity shall be considered to enjoy special or exclusive rights in particular where - in case of paragraph 2 (a)- the entity supplies with drinking water, electricity, gas or heat a network which is itself operated by an entity enjoying*

[5] See: Ministry for Foreign Affairs, Cabinet Minister Östros, *To the Swedish Parliament, Response to Question 004/05:668 from Ingegerd Saarinen regarding export credits for nuclear power*.
[6] The highest amount of €758 million was granted to Chantiers de l'Atlantique in the second trimestre of 2001. Otherwise, few of the guarantees exceed €200 million.
[7] http://www.cofaceCOFACE.fr/dmt/rubc_asscrexp/indexc.htm
[8] http://www.COFACE.fr/rub01_gr/gc.htm
[9] *7th Commission report on competition policy* (1977), point 242.
[10] *Official Journal C 281, 17/09/1997 P. 0004 – 0010*.
[11] Platts nuclear news Flashes, May 25, 2004.
[12] Translation of short article in the newsletter Kraft-Affärer No 2/2003 page 4.

special or exclusive rights granted by a competent authority of the Member State concerned. The Finnish Transmission system is such a network enjoying special or exclusive rights granted by the Finnish State, which holds 37% of shares and 50 % of votes in Fingrid Oy. One shareholder of Fingrid Oy is PVO, which holds 56,8 % of TVO and has 33,3 % voting rights in Fingrid Oy.

She also stated the following: (1) TVO was fully aware of the above predatory pricing scheme of Framatome/ANP and also of the COFACE and Swedish guarantee. (2) Knowing that it was done by public support, TVO was obliged to demand of the applicant in the tendering process to ask if state support schemes were notified to the European Commission. (3) The tendering agency should ask in cases of "abnormally low" offers and according to Art. 34 Directive 93/38/EEC coordinating the procurement procedures of entities operating in the water, energy, transport and telecommunications sector which provides: *"Contracting entities may reject tenders which are **abnormally low** owing to the receipt of **State aid** only if they have consulted the tenderer and if the tenderer has been unable to show that the aid in question has been notified to the Commission..."*

Dr. Fouquet ended her presentation by concluding that there is very superficial or no evaluation at present by the EU Commission, also predicting that the DG Comp will probably decide that no state aid is involved in the TVO case. Apparently, the DG TREN has looked into the case and closed it without informing the complainant. No other DG has looked into the case.

10. *Duncan Currie,* Attorney from New Zealand, gave a presentation on **"The Problems and Gaps in the Existing Treaties (Vienna and Paris Treaties) and an Analysis of How an Actual Claim would be brought under the current existing Treaty Regime in the Event of a Nuclear Accident,"** pointing out that the international nuclear liability regime is extremely patchy and complicated in addition to featuring only sparse participation. While the recent amendments to the Vienna and Paris Conventions have been much heralded, they are full of exceptions and the amended Protocols enjoy even more sparse participation than the original Conventions. Others, such as the Convention on Supplementary Convention (CSC), are not in force and for those that are in force, many major nuclear countries are not party to them. Characteristics of the system include that there is no neutral tribunal provided and the claimants are generally required to file claims in the courts where the nuclear installation is located, even with respect to nuclear transports on the high seas, with as a consequence attendant costs, concerns about neutrality of the courts and law and limitations of recoverable damages. Liability is limited in time and in amount, equalling subsidy of the nuclear industry, the definition of damage is narrow and likely to be interpreted by the courts of the installation state. Hence, the value of these features to victims of nuclear accidents and non-nuclear states is limited. Other barriers to justice exist such a high legal costs, security for costs, liability for costs of the opposing party, access to legal aid and standing requirements, particularly to defend the environment as opposed to property interests. Also, the burden of proof and causation may place unsurmountable barriers on claims.

While the minimum limits have been increased by the 1997 and 2004 Protocols, non-nuclear States may wish to consider whether agreeing to limitation of liability is in their best interest. While it clearly benefit nuclear operators and nuclear States, it is less clear that it benefits potential victims. Where those victims are required by the respective Conventions in most cases to commence litigation in the courts of the operator State, the quantum and very availability of categories of damage is restricted by the law applied by those Courts, and even if it is available, will be limited by the applicable limitations. In the case where claims are in the billions of Euros, they would be at a clear disadvantage. If a

State does join the revised Vienna Convention, it must upon ratification or accession make a declaration under article 19 of the Protocol stating its intention not to be bound with respect to States that are party only to the unamended Vienna Convention, since they risk limiting their rights to compensation to the lower levels in the unamended Vienna Convention. The omission of coverage for terrorist attacks is a significant omission as this is an oft-cited concern by States.

According to Duncan Currie, a regime should clearly cover all nuclear installations, all nuclear incidents wherever they should apply, and their effects anywhere in the world, damage to the environment per se, should not carry exemptions, particularly for terrorist attacks, should provide for an international tribunal, should provide for a backup fund for providing compensation where a liability regime fails, should not limit liability to an operator, and should not provide for limits on liability amounts. He also recommends that groups acting in the general interest and to protect the environment should have standing, as should groups representing other interests that might be afflicted.

11. *Michael Geistlinger,* the Faculty of Law at the University of Salzburg, gave a presentation on **"The Caselaw of the European Court of Human Rights,"** focusing in particular on four recent cases: Case of Öneryildiz v. Turkey (App. N°. 48939/99), Grand Chamber 301104, final, Affaire Vides Aizardz_bas Klubs c. Lettonie (App. N°. 57829/00), Chamber 270504, final, Case of Svetlana Naumenko v. Ukraine (App. N°. 41984/98), Chamber 091104, final and Case of Fadeyeva v. Russia (Appl. N°.55723/00), Chamber, 090605. (= circular letter Christiana Griesbeck, EU-Umweltbüro (140605, and PLAGE).

Especially the decision of the European Court of Human Rights (EHRC) in the case Fadeyeva v. Russia, dated 9 June 2005, underlines the steadily growing importance of the European Convention on Human Rights (ECHR) as a legal tool for the protection of the human environment. Fadeyeva is the largest Russian iron smelter with 60,000 employees. The plant caused excessive atmospheric pollution with considerable negative health and environmental impacts. A sanitary security zone was decreed but in practice not established. There was evidence of above average rate of respiratory, blood and haematogenic diseases and an increased number of deaths of cancer ensuing from this pollution.

The applicant complained that the operation of Severstal Steel Works in close proximity to her home endangered her life and health. She also complained that she had not been resettled outside the security zone in question despite the fact that Russian legislation prohibits any dwelling in the area. She relied, in particular, on Article 8 (right to respect for private and family life and home) of the European Convention on Human Rights. The ECHR ruled that Article was violated for the following reasons: The adverse effects of environmental pollution transgressed the required minimum level, which is relative and depends on all circumstances of the case, such as the intensity and the duration of the nuisance and its physical and mental effects. The adverse effects must be above environmental hazards inherent to life in every modern city. The standard of proof was met beyond reasonable doubt (no medical conclusion, but government and court assessments.

The Court decided that regarding future measures to be adopted by the Government in order to comply with the Court's finding of a violation of Article 8 of the Convention in the present case, the resettlement of the applicant in an ecologically safe area would be only one of many possible solutions. In any event, according to Article 41 of the Convention, by finding a violation of Article 8 in the present case, the Court established the Government's obligation to take appropriate measures to remedy the applicant's individual situation.

According to Michael Geistlinger, the system of European case laws on human rights is a system of individual cases developing law on the European level no matter the outcome for the individual litigators. Even if a human right to environment is not recognised by the Court, more and more elements of such a right in the understanding of a minimum standard for environmental quality can be detected. The most important role in this respect is played by Articles 2 (right to life) and 8 (right to respect for private and family life, to home and correspondence). In general, the Convention does not give priority to Article 2 over Article 8 or vice versa. In the Fadeyeva case, Article 8 has been unanimously found by the judges as having been violated. In cases, where both articles have been referred to, the order of examination depends on the concrete circumstances. Article 3 (prohibition of torture, inhumane and degrading treatment) so far never has been found violated in environmental cases. Article 10 (right to opinion) plays a minor role, but gave rise to a decision on its violation by Latvia against a Latvian environmental association in the Vides Aisardzibas Klubs v. Latvia case, dated 17 May 2004. The court supported the claim. Also Article 1 Protocol I is of minor importance in environmental cases, but has been a key element in the Öneryldiz case v. Turkey, which was decided by the Grand Chamber on 30 November 2004. In addition, the procedural guarantees of Articles 6 and 13 in the Convention stand in the centre of most environmental cases, as can be learnt from the judgement of the Grand Chamber in the case Hatton and Others v. The United Kingdom and from a couple of nuclear power plant decisions.

12. *Antony Froggatt*, Energy Consultant from London, gave a presentation on **"The Current State and Future Prospects of Nuclear Power in Europe**." According to Antony Froggatt, nuclear power is declining and has been for a number of years within the European Union. Over the last 2 decades there has been very little new nuclear construction in Europe. However, the nuclear industry is active in promoting itself as a key player in the fight against climate change and the use of nuclear gives the EU increased security of supply. These twin arguments are gaining the nuclear industry supports and coupled with the currently high gas prices and high price of carbon, have all increased the confidence of the nuclear sector. In particular, parts of the media suggest that nuclear power is back in favour because of this.

The current status of nuclear power in Europe is the following: Nuclear power provides around one third of EU electricity or 6.7% of final energy consumption. Four countries, France, Germany Spain and UK, representing 50% of the population, provide 77% of the nuclear electricity generation. There are 155 reactors operating in Europe in 13 countries. In addition there are 5 reactors in accession countries (Bulgaria and Romania), 47 in former Soviet Union (Armenia, Russia and Ukraine) and 5 in Switzerland.

The future prospects of nuclear power in Europe will depend on developments in oil and gas prices, security of supply, the price of carbon and interest rates. *Especially regarding security of supply*: there is increased concern over security of supply. Increase in demand is in the order of between 1-2% per year. Imported natural gas will rise from 50% today to 75% by 2030. Imported oil will increase from 75% to 90% over the same period. Hence, diversifying away from imported fossil fuels is a political objective. *Especially regarding the price of carbon*: EU has defined an indicative long-term global temperature target of no more than 2 degrees above pre-industrial levels. The European Commission claim that nuclear power saves 300 million tonnes of CO2 per year. The current price of CO_2 within European Emissions Trading Scheme, is around €20 per tonne.

In Antony Froggatt's opinion, in many ways market conditions for nuclear power are as good as they will get. Nevertheless, endorsing new nuclear is, to an extent, a potentially courageous 60 years bet on fuel prices, discount rates and promised efficiency gains.

In spite of the favourable market conditions, nuclear power does not do very well. This can be seen by the lack of orders and subsequent construction for new nuclear power plants. In current Member States the only nuclear reactor under construction is in Finland. Between 1990 and 2010 it is likely that there will have been about 10 new reactors in current Member States. However, just to retain the current nuclear capacity (i.e. to replace reactors as they are closed when they reach the end of their operational design live) around 40 new reactors would have had to be completed. In the coming decades an increasing number of reactors were expected to close as they reach the end of their design lives. However, with hardly any nuclear reactor being built the nuclear industry is seeking to both extend the lives of their existing reactor and to increase their output. These processes are potentially good for the nuclear utilities, as they can result in increase profits (as there is an increase in electricity production with relatively little capital investment) and they enable the nuclear sector to retain their section of the electricity supply industry.

The nuclear industry is now significantly trying to shorten the odds in order to succeed. Thus, further market manipulations are taking place. This pertains to financial support, regulatory changes and utility co-operation. *Regarding financial support*: Government backing has occurred with respect to in Finland's Olkiluoto 5 reactor, namely €710 million in ECA guarantees from France and Sweden, enabling a €1.95 billion loan at 2.6%. In France, the EPR at Flamanville may receive considerable grant funding (€500 million). *Regarding regulatory changes*: This implies reduced regulatory involvement and reduced public involvement, including pre-licensing of designs, special rights for ownership of waste and waste management funds, nuclear obligations or fixed prices and reduced planning inquiries. The objective of the regulatory changes is to give the "right signal" to investors. For example, there is no way investors are going to be interested when it takes six years to get planning permission for a new plant, so reform of planning law would be a good start. *Regarding utility co-operation*: Flamanville 3 may have pan European investments (EdF, Eon, Endesa, Electrabel and Enel). Similar utilities may be interested in construction new reactors in other countries, e.g. Finland and possibly UK.

Antony Froggatt completed his presentation by describing the prospects of nuclear power the following way: For a significant increase in nuclear power further changes will be needed in the energy market and developments in security of supply and environmental concerns will make these changes more likely. Whether nuclear power ultimately succeed is far from clear, but what is clear is its chances are improving.

III. PANEL THREE – TREATIES AND CASELAW

Chair: *Michael Geistlinger*, University of Salzburg Faculty of Law

13. *Ved Nanda*, University of Denver Law School, gave a presentation on **"An Overview on Enforceable Environmental Rights, Focusing on Decisions of International Tribunals and International Settlements."** Ved Nanda based his presentation on a selection of international tribunals and settlements: (A) The 1996 International Court of Justice (ICJ) Advisory Opinion on the Legality of the Threat or Use of Nuclear Weapons. The claim was the French nuclear testing violated the freedom of the high seas and that there was no excuse for submitting New Zealand to this situation of possible irreparable damage. The French counter claim: New Zealand cannot prove a legal interest. The Court accepted New Zealand's legal interest and established that irreparable damage might be done. (A1) Affirmation that certain principles of Stockholm and Rio Declarations are a part of customary international law relating to the environment. (A2) Rule of Proportionality

applies to armed conflicts that may damage the natural environment. This also applies to any use of nuclear weapons because it would cause in proportional damage. This includes reprisals. (B) The 1949 Geneva Convention and Protocol I – General obligation to protect the natural environment against severe environmental damage. (C) ICJ's 1973, 1974 and 1995 decisions in the Nuclear Test Cases – Imposition of interim protections. (D) ICJ's 1997 Gabcekovo-Nagymaros Project judgement strengthening the precautionary principle, the sustainable development project and the role of impact assessments. (E) The International Tribunal for the Law of the Sea's 2001 decision in the Mox Plant Case, which supports the duty to consult. (F) Statute of the International Criminal Court providing for prosecution of environmental war crimes: Articles 8 (2) (b) (iv) of the Rome Statute, tracking the language of Articles 35(3) and 55 of Protocol I and the ENMOD Convention. (G) The 1986 Chernobyl Accident. (H) The 1954 Lucky Dragon Radiation Incident. Ved Nanda's conclusion is that (1) at this point there is no ascertainable enforceable environmental rights. (2) The Treaties should be used. (3) New legal concepts should be created. (4) Citizens should be provided with rights of injunction. (5) Involvement of media and networking is necessary for the implementation of legal rights.

14. *Bernard Drobenko,* University of Limoges Faculty of Law and Economy, gave a presentation on **"Litigation in the French courts: The Limousin Sources and Rivers Society v. COGEMA."** The lawsuit relating to the uranium mining by COGEMA in Haute-Vienne is in many respects characteristic of the problems that nuclear power represents in France. In Limousin there has been uranium mining for 50 years, which has resulted in considerable amounts of radioactive waste (20 million tonnes at 4 sites). The mines have now been closed. The presentation focuses on the context in which the lawsuit emerged, its objectives and methods but also the difficulties with respect to the procedures and interest involved. The litigation was initiated by a small organisation, Sources et Rivières de Limousin.

For more information his presentation, please see the conference website after the publication of the presentation.

15. *Jean Jacques Gouguet,* University of Limoges Faculty of Law and Economy, gave a presentation in **"The Financial Stakes Behind the Lawsuit The Limousin Sources and Rivers Society v. COGEMA."** The Limousin lawsuit is a striking example of the non-profitability of the French nuclear industry if all its social and environmental costs are internalised. The lawsuit gives evidence to the fact that uranium mining has not contributed to the economic development in the area in question. On the contrary, the status is probably negative, because long-term storage of millions of tonnes of nuclear waste will put a heavy burden on the future economic development of the region. The litigators tried to attribute a value to the ecosystem, which was destroyed and the human life, which was devaluated or destroyed, relying on economists to make these calculations. The problem is how to calculate the long-term costs, including the costs for future generations. E.g., should the calculation pertain to a thousand or a million years? French nuclear is based on a veritable "culture of silence" which makes information applicable for litigation difficult to obtain. Restoration of the polluted sites was demanded. A collective negotiation including the local population was initiated. A compromise was reached.

For more information his presentation, please see the conference website after the publication of the presentation.

16. *Lakshman Guruswamy*, University of Colorado Law School, gave a presentation on **"U.S. Nuclear Regulation & Case Law."** Overall, his presentation focused on answering 3 questions:
(1) Is the USA witnessing a resurgence if nuclear power? In 2000 nuclear was 20% of the US electricity production. The reasons why this might be the case: (a) Earlier impediments are being removed, (b) government is subsiding costs, (c) regulations are currently more flexible, (d) there is now a plan for waste management and (e) a functioning liability scheme. Apart from the fact, that (f) case law is not slowing down momentum, (g) public opinion is changing in the light of global warming, peaking of oil and the economy of NPPs. Nevertheless, it is a fact that there were no plant orders from 1978-2005. This was because of the high construction costs ($ 2 to 6 billion = $ 3,000 per installed KW generation capacity, higher than for coal or gas plants), high regulatory costs, public concern and no solution for waste disposal. There are now new developments with respect to the costs situation ("*Nuclear power 2010 program*" from 2002 promoting a general advance in nuclear power resulting in at least one new plant in 2010 as well as in three consortia proposing to build new plants, and "*Energy Policy Act 2005*," which allocates $ 6 billion to the nuclear industry, substantially increases direct subsidies and provides tax breaks and twice as much R&D expenditure on fusion and fission than renewables). U.S. Department of Energy (DOE) currently has a number of initiatives to promote the growth of nuclear energy. One such initiative is "*Nuclear power 2010 program*," which helps explore new sites, develop the business case, develop generation III+ technologies and demonstrate a new licensing process. A second DOE initiative is *the Advanced Fuel Cycle Initiative*, which helps recovery of energy value from SNF, reduce the inventory of civilian plutonium, reduce the toxicity and heat of waste and develop a more effective use of repository capabilities. Currently, there is no recycling in the U.S., all spent fuel has to be stored in underground burial. In 2003 there was 50,000 metric tonnes of spent fuel. In 2002 Yucca Mountain in Nevada was chosen as final repository site. A third DOE initiative is *the Nuclear Hydrogen Initiative*, which helps develop technologies for economic commercial-scale generation hydrogen. A fourth DOE initiative involves development of *generation IV reactors*, i.e. better, safer more reliable and economic nuclear power plants, proliferation resistance and physical protection, economic competitiveness and sustainability. Is the USA witnessing a resurgence of nuclear power? Lakshman Guruswamy's answer: It appears to be.
(2) To what extent can the existing regulatory and liability regimes deter or slow down this development? Price Anderson Act caps liability per reactor at $ 100 million. There is currently £ 10 Billion in indemnity fund. Regarding Three Mile Island: $ 70 million has been paid in claims. Lakshman Guruswamy's answer to this question: Not to any significant degree.
(3) Has the alien tort claims act (ACTA) been marginalized? ACTA covers "any civil action by an alien for a tort only, committed in violation of the law of nations or a treaty of the United States." The case *Sosa v. Alvarez-Machain* (SC, 2004) recognizes causes of actions for torts based on violations of customary international law and treaties. However, such causes of action should be viewed with extreme caution, allowing only those based on well-established customary international law and self-executing treaties ratified by the United States or implemented by appropriate U.S. laws. New causes of action permissible but customary law that is specific, universally accepted and obligatory. The promise of ACTA pertains to the fact that it allows for new causes of action (in *Kadic v. Karadzic* (1995) the Appeal Court (2d circuit) recognised applicability of ACTA to private actors) and that a number of cases have recognised that corporations may be liable under ACTA.

Lakshman Guruswamy's answer to this question: No, though it is much more modest than some of its advocates think it is.

17. *Raul Montenegro*, University of Cordoba Department of Evolutionary Biology and President of FUNAM (Environment Defense Organisation), gave a lecture on **"Nuclear Free Zones and Other Regional Strategies to Reduce the Risks of Injury from Nuclear Facilities."** According to Raul Montenegro a multi variable system like the nuclear industry must be faced with a multi variable system implemented in the anti-nuclear strategies. The strategies are: Variable 1 = Obtaining of accurate information, Variable 2 = Design of sensitive packs of in formation for citizens, media, institutions, etc. Variable 3 = Territorial barriers (municipality, province, state, bilateral declaration of nuclear zone). In Argentine 8 provinces out of a totality of 23 and 75 municipalities have declared themselves nuclear free zones. Variable 4 = media campaigns (cf. Variable 2, evaluation, files, press releases). Variable 5 = Direct actions and citizens' demonstrations. Variable 6 = Actions at the court of justice, using nuclear and non-nuclear regulations. Variable 7 = Making and dissemination of "citizens emergency plans for facing nuclear accidents." Such plans help people to be prepared and increase awareness of the risks of nuclear energy.

For more information on Raul Montenegro's presentation, please see the conference website after the publication of his presentation.

18. *Hans-Josef Fell*, Member of the German Parliament and Vice-President of Eurosolar Germany, gave a presentation on **"On the Necessity and Ways to Reform the Euratom Treaty."** He gave a brief outline of the historical background of the Euratom Treaty, stressing the overambitious hopes associated with the introduction of nuclear energy in Europe. The growth of nuclear power production in Europe has lagged far behind the levels that were originally forecast – a pattern repeated all over the world. For instance, in 1974 the

International Atomic Energy Agency predicted that by 2000 there would be an installed capacity of more than four million megawatts. Today, the real figure is less than one twelfth of this sum. Nevertheless, the introduction of nuclear energy within the framework of the Euratom Treaty enjoyed a unique special position in energy policy, just as it still does today. Nuclear energy has been given absolute priority and privileged support when it comes to research funding, the dissemination of knowledge, state financial and administrative resources and other advantages. There is not even any time limit on the privileges provided for in the Euratom Treaty. Furthermore, Euratom is still the most effective instrument available to those who wish to protect nuclear energy today. If Euratom were no longer in force, nuclear energy would not stand a chance economically in Europe any more.

However, despite the massive promotion of nuclear technology under Euratom, many of the old EU countries have managed without nuclear power stations: including Denmark, Portugal, Austria, Ireland, Greece and even Luxembourg, one of the original Euratom signatories. Italy stopped using nuclear power years ago. Decisions to phase it out or block plans for its expansion have been taken in the Netherlands, Belgium, Germany, Spain and Great Britain. Only France, the EU's nuclear hardliner, is pursuing the construction of a new European pressurised water reactor, although no concrete decision has yet been reached in this respect. Finland stands alone in having decided to expand its nuclear power industry. However, the financial arrangements involved in this undertaking evidently contravene European competition regulations due to subsidies from the Bavarian

Land government, against which Dörte Fouquet has lodged a complaint with the European Commission. Nevertheless, this complaint may well be rejected with reference to Euratom.

There is not even a nuclear majority among the countries that have joined the EU in the course of European enlargement. Estonia, Latvia, Poland, Malta and Cyprus do not use nuclear power. Lithuania has decided to close down all its nuclear generating plants. Only Slovakia, Hungary, Slovenia and the Czech Republic use nuclear energy. Officially, these countries have no concrete new plans to expand nuclear generation, but some of them are unofficially pursuing this goal.

Given the genuine anti-nuclear majorities in the EU, it is astounding that the anachronism of Euratom is still in place. This is all the more incomprehensible in view of the fact that Euratom places considerable financial burdens on the individual member states. The Euratom Treaty continues to provide a framework for the persistent, continuing wastage of resources on nuclear research, a framework that can only be contested with some difficulty. At the same time, it is impossible to use EU competition law to take action against distortions of competition caused by financial support for the existing use of nuclear power under Euratom.

Over the last fifty years, about seventy to eighty percent of all public funding for energy research in the entire OECD has been spent on nuclear projects. Despite this, nuclear power currently meets less than five percent of the global demand for energy. The renewable energies on the other hand already provide around 20% of energy consumed in the world. This is despite the fact that public funding for research within the OECD represented at the most a few percent of overall research spending on energy.

Yet continued waste of resources knows no limits. Nuclear fusion, which has absolutely no chance of commercial success in the next fifty years easily receives more resources than any other type of energy within the European energy research framework. The reason for this, naturally, is the support for research anchored in the Euratom Treaty. The comprehensive and wide-ranging nature of this support is laid down in Chapter 1, Articles 4 to 11.

No comparable research support for renewable energies is to be found in the whole of the EU treaty framework. According to the Euratom Treaty, “The Commission shall be responsible for promoting and facilitating nuclear research in the Member States and for complementing it by carrying out a Community research and training programme.” The list in Annex 1 provides a complete and precise list of all the different areas. It encompasses research in the areas of raw materials, physics applied to nuclear energy, physical chemistry of reactors, processing of radioactive material, applications of radioisotopes, study of the harmful effects of radiation on living organisms, equipment and even economic aspects of energy production.

Nowhere does such a list exist for research in the field of renewable energies or research into any other form of energy. Quite the opposite in fact: instead of creating exactly this kind of definition, the EU’s current Sixth Research Framework Programme barely mentions individual forms of renewable energies such as the ocean energies. The Commission coordinates European research, comments on national results, compiles reports, organises conferences and highlights at regular intervals deficits in nuclear research. It also provides financial assistance, supplies source materials or fissile materials, and can place equipment or expert assistance at the disposal of Member States, or even of companies, free of charge. It is the Council which decides, on the basis of a proposal from the Commission, on training and research programmes, as well as the budgetary resources needed. The democratically elected European Parliament is only consulted; it does not have any decision-making powers. This means that decisions on allocations of resources have no democratic legitimacy.

In the EU's current Sixth Research Framework Programme, nuclear energy therefore once again received by far the largest portion of spending, at 1.23 billion euros, of which nuclear fusion received the lion's share at 800 million euros. Non-nuclear energy forms, meanwhile, have to make do with around 830 million euros in total. The Commission's approach to nuclear energy and bias against renewable energies were originally far worse. It is thanks to proposals from the European Parliament and particularly the influence of the German government that the situation of renewable energies relative to nuclear energy has been improved somewhat, though they were unable to achieve any decisive turnaround in policy.

The EU's draft of the Seventh Research Framework Programme actually reinforces the discrepancy in the way nuclear research and non-nuclear research are treated. It provides for a total of 3.1 billion euros to be spent on nuclear research and 2.95 billion euros for non-nuclear energy forms. The 3 billion euros for Euratom, though, are to be spent over the next

5 years, whilst the spending in the non-nuclear field is to be spread over a period of 7 years.

In addition, we know that a large proportion of these resources for non-nuclear energy is to be spent on hydrogen technologies, which, as we know, can also be – and are intended to be - used for storing nuclear electricity. Another large chunk of spending is earmarked for

CO2 sequestration in the field of coal consumption, which is intended to give the impression of allowing climate-friendly use of coal. In Hans-Josef Fell's opinion, the main aim of research on hydrogen technology and CO2 sequestration in the field of coal is to maintain the system of fossil and nuclear energy, since it is already clear today that both technologies will be much more expensive than direct use of renewable energies.

Since a true solution to the nuclear problems and to climate problems can only be found through the use of renewable energies, the lion's share of energy research in the EU should actually be concentrated on renewable energies and on energy saving. The draft Seventh

Research Framework Programme is a long way from this, however. The 400 million euros which are allocated for renewable energies over a period of seven years represent around ten percent of the amount to be spent on nuclear technology. This autumn, the European Parliament and then the Council of Ministers will be taking their decision. Hans-Josef Fell call on everybody active in this field to pull out all the stops to ensure that nuclear research is reduced and research on nuclear energies increased. In principle, however, Euratom serves as a legal obstacle to these political demands.

In addition, the Commission, on the basis of the Euratom Treaty, has also established a European Nuclear Research Centre. This centre coordinates the many and wide-ranging tasks in the area of nuclear research for the Commission. The Commission is able to advise, support and coordinate nuclear research in Member States, companies and even in non-Member States; it can even allocate individual research tasks to particular Member States or enter into cooperation initiatives with non-EU states. Looking at the immense privileges which Euratom gives nuclear energy, it becomes ever clearer that Euratom must be terminated.

But how can a treaty of unlimited duration be terminated? Unfortunately, it is difficult to identify a way to do so. The seemingly most simple solution would be for the contracting parties to abolish Euratom by common agreement, within the framework of a conference of the parties, for example. Yet the idea of arriving at such a consensus is completely unrealistic, since France, for example, would not agree. However, such a conference of the contracting parties would certainly allow some states to voice their

resentment, which could, in turn, at least lead to a debate on whether to amend or abolish Euratom.

Nonetheless, it is indeed possible for individual Member States to withdraw unilaterally from Euratom. The EU constitutional process had opened up opportunities for phasing out Euratom, but of course, this possibility is now purely theoretical, since the EU constitutional process is faltering. But unilateral withdrawal nonetheless appears to be possible on the basis of the legal situation in the EU today. A Member State should initiate such a process so that we can move forward on the issue of Euratom. Germany is now unlikely to do so following its change of government, but this could offer Austria an opportunity to maintain its high profile as an opponent of nuclear power. I think that it may be worthwhile to seek to influence the Austrian government's policy to this effect. Such a process could be advanced more credibly if coupled with calls for a treaty on renewable energy. It defies all logic that, in light of the problems relating to climate protection, security of energy supplies and the need for technological development, there exists a treaty promoting nuclear energy but none promoting renewable energy.

For a long time, Eurosolar has been proposing a new Eurenew treaty to speed up the introduction of renewable energy in Europe. It could establish a Europe-wide framework for the promotion of research and for the necessary early-stage financial assistance. To avoid a repeat of the Euratom Treaty's democratic deficit, the European Parliament should be given a say, particularly in terms of its power of the purse. A time limit of 30 years would appear to be both sufficient and sensible. With Eurenew instead of Euratom, renewable energy would swiftly gain ground throughout Europe. This could quickly ensure real climate protection and a shift away from war-inducing fossil fuels and nuclear energy. At the very least, a broad political debate about Eurenew could highlight the absurdity of the fact that a European treaty exists for nuclear energy but not for renewable energy. Perhaps this would spark a debate on the abolition of Euratom.

However, it would be a major step forward even for renewable energy to be given a similar legal basis to Euratom, through Eurenew. Given renewable energy's incredible advantages compared to nuclear power, Hans-Josef Fell believed that, even in this case, the phase-out of nuclear energy would begin or pick up speed throughout Europe, which would, incidentally, be a genuinely effective form of climate protection.

IV. PANEL FOUR – THE PROCESS OF PURSUING CLAIMS

Chair: *Diane Sammons*, attorney, Livingstone, NJ

19. *Davor Petec*, Attorney from Los Angeles and Honululu, gave a lecture on **"The Marshall Islands Nuclear Claims Tribunal."** The background of this presentation is the fact that The United States has conducted 67 nuclear tests in the Marshall Islands, 43 of which occurred on Enewetak Atoll. The detonation of the world's first thermonuclear device occurred on Enewetak in 1952 and had a yield of 10.5 megatons. The people of Enewetak Atoll were removed from their homeland shortly before

Christmas 1947 in order to make nuclear testing possible and had to settle on the small, isolated and resource-poor Ujelang Atoll for 33 years. In the late 1970's, the United States undertook a clean-up program the purpose of which was to improve the conditions on Enewetak so that the Enewetak people could resettle their atoll. Although the cleanup did result in the resettlement of the Enewetak people on three islets on the southern half of their atoll in 1980, over half the atoll remains contaminated preventing habitation on that portion. In addition, the lagoon sediment remains contaminated with plutonium, causing

anxiety about the safety of consuming the atoll's marine resources upon which the people depend.

In the 1980s, the peoples of Enewetak, Bikini, Rongelap and Utrok Atolls and other Marshall Islanders brought lawsuits against the United States in the U.S. courts for property and other damages totalling more than $5 billion. During the litigation, the U.S. and Republic of the Marshall Islands governments signed a treaty known as the Compact of Free Association. That Compact defines the relationship between the U.S. and the Marshall Islands and included a subsidiary Section 177 Agreement, which established a $150 million Nuclear Fund, income from which was earmarked for the peoples of the four atolls "as a means to address past, present, and future consequences of the Nuclear Testing Program." Income was also earmarked to fund a Nuclear Claims Tribunal, which was to be established with "jurisdiction to render final determination upon all claims past, present and future, of the Government, citizens, and nationals of the Marshall Islands which are based on, arise out of, or are in any way related to the Nuclear Testing Program."

The Section 177 Agreement also provides that it constitutes the full settlement of all claims, "past, present and future," of Marshall Islanders and their government against the United States arising out of the testing program, and another section provides that all such claims pending in U.S. courts are to be dismissed. Faced with these provisions, the U.S. Courts dismissed the nuclear cases after the Compact went into effect. This dismissal was approved by the U.S. Courts because the 177 Agreement provided for the establishment of an alternative tribunal to determine damages and provide compensation. The U.S. courts said that whether the $150 million settlement amounted to just compensation for the

Marshall Islanders whose cases were dismissed, was an issue to be determined by the alternative tribunal -- the Nuclear Claims Tribunal. The Marshall Islands Nuclear Claims Tribunal was constituted in 1988. After the claims of the Enewetak people and other Marshall Islanders were dismissed by the U.S. courts, the only forum available to hear the just compensation claims of the Enewetak people was the Nuclear Claims Tribunal. The claims of the Enewetak people before the Tribunal were for the loss of use of their land, for the costs to restore their land to a condition of full and unrestricted use, and for the hardship and suffering they endured while in exile on Ujelang.

The proceedings in the Nuclear Claims Tribunal were adversarial proceedings with the Enewetak people presenting their expert and lay witnesses to support their claims while the statutorily created office of the Defender of the Fund had the ability to contest such testimony, cross-examine the claimants' witnesses, and provide its own experts and other testimony. After considering the written and oral testimony of health physicists, appraisers, anthropologists, and after careful analysis of the applicable law, the Nuclear Claims Tribunal awarded the Enewetak people approximately $384 million for the property and consequential damages they suffered as a result of the U.S. nuclear testing program. However, only a small portion of that award has been paid because the Nuclear Claims

Tribunal lacks funding to pay the award in full. The Enewetak people are in the process of attempting to have the awards addressed by the U.S. government. If that fails, the Enewetak people will bring an action in the U.S. courts to enforce the award.

20. *Helmut Hüttinger*, Attorney from Salzburg, gave a presentation on **"Procedural Rights to Participate in Decisions Related to Nuclear Facilities."** According to Helmut Hüttinger, there is a clear consensual perception that Austrian courts can receive complaints intending to prevent construction of nuclear installations in bordering areas near Austria. The legal basis for the protection of human life and property against the risk constituted by NPPs are primarily the *Austrian Civil Code* (ABGB) and the *Austrian Atomic Liability Act* from 1999. The ABGB defines the legal conditions for the protection

of life and property and liability for dangerous radioactive emissions and negligence. The Austrian Atomic Liability Act regulates civil responsibility for damage caused by operation of nuclear installations and transport of nuclear substances. However, no such complaints (concerning e.g. Wackersdorf, Mochovce, Chernobyl and Temelin) have ever produced any results. There are enormous barriers preventing an effective verdict. Individuals without substantial means at their disposal will not be in a position to achieve results. Hence, it is essential that firm procedures for the implementation of international law are established in order to protect life and property for the population that would be threatened by a serious nuclear accident. So far, these procedures have not been established. At the same time it must be legally established that operators of nuclear power plants should carry the costs for a serious nuclear accident themselves. Only then would the inherent risks of operating a nuclear power plant be taken into consideration in its planning and construction phase.
For more information his presentation, especially the details of the complaints mentioned above, please see the conference website after the publication of the presentation.

21. *Jon Van Dyke* from William S. Richardson School of Law, University of Hawaii at Manoa, gave a lecture on **"Liability and Damages?."** He set out to throw some light on the following highly important questions: Does international law impose strict liability on hazardous activities that cause harm to other countries? Should all nuclear activities be governed by a regime of strict liability?
Are nuclear activities that impose risks on other countries "lawful"?

According to Jon Van Dyke, it has always been clear under customary international law that reparations are essential whenever damages result from illegal actions for which the state bears responsibility, and compensatory payments are also frequently required when damage follows from an action that may be lawful in some contexts but has nonetheless caused harm. This principle is found in the 1927 decision of the Permanent Court of International Justice in the Chorzow Factory Case and it was confirmed in the 1999 decision of the International Tribunal for the Law of the Sea in the M/V Saiga Case where the Tribunal established that a State which suffers harm as a result of an internationally wrongful act by another State which committed the wrongful act and that reparation must, as far as possible, wipe out all the consequences of the illegal act and re-establish the situation, which would have existed if the act had not been committed.

The arbitral tribunal in the Trail Smelter Case (1939-41) ruled that Canada was liable for the damage done to crops and animals in the United States resulting from the fumes spewed into the atmosphere from the smelter located on the Canadian side of the border even though the operation of a smelting plant is not inherently unlawful. In the Corfu Channel Case (UK v. Albania) (ICJ 1949) the International Court of Justice ruled that Albania was liable even though it had not laid the mine fields because it was in a position to know what was happening in its waters and had a duty to no notify other states that might be endangered by the mines. The Court ruled similarly in the Nicaragua Case (Nicaragua v. U.S.) (1986) that the United States violated its duty to warn shippers when it laid mines in Nicaraguan ports.

Examples of countries recognising their obligation to provide compensation for environmental damage include the following: (a) After US atmospheric tests in the Marshall Islands in the 1950s, the United States made a $ 2,000,000 ex gratia payment to Japan for 1954 injury to fishers on the Lucky Dragon and has provided $ 185,000,000 in compensation to Marshall Islanders. (b) The Soviet Union paid Canada for cleanup costs associated with radioactive material from the Cosmos satellite that broke apart over Canada in the 1970s. (c) France stopped atmospheric testing in the Pacific after the ICJ

case brought by Australia and New Zealand in the 1970s. (d) Australia and the UK provided aid payments to Nauru after Nauru brought a case in the 1990s in ICJ for environmental despoilation.

Jon Van Dyke also quoted the so-called No-Harm Rule from the Preamble of the UN Framework Convention on Climate Change (1992): "Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction." This also implies a duty to notify, including a duty to exchange information, a duty to listen to the concerns of affected countries and a duty to respond to the concerns, and a duty to reach an agreement, including the duty to submit the dispute to third party adjudication. An example of the implementation of the No-Harm Rule: The Mox Plant Case (Ireland vs. U.K., 2001). The Tribunal's Ruling – December 3, 2001: The duty to cooperate required the two countries to exchange information concerning the risks created by the plant, to monitor the effects of the plant on the marine environment, and to work together to reduce those risks. Each country was required to submit a report to the Tribunal by Dec. 17, 2001.

John Van Dyke established that there were some emerging principles of international law going in the right direction. These included: Stewardship, sustainable development, protection of biological diversity, precautionary principle/approach, polluter-pays principle, intra-generational (social) equity, intergenerational equity and indigenous rights.

Regarding the polluter-pays principle, he quoted Principle 17 of the 1992 Rio Convention: "National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution, with due regard to the public interests and without distorting international trade and investment." He also tried to answer the question whether this is essentially a principle of strict liability, in this context stressing in the context of the nuclear industry the absence of a comprehensive and adequate liability and compensation regime and the fact that limits on liability are inconsistent with the polluter-pays principle.

John Van Dyke also elaborated on the precautionary principle/approach, and established the following: Developments and initiatives affecting the environment should be thoroughly assessed before action is taken. The burden is on the developer or initiator to establish that the new program is safe. Alternative technologies should be explored. The absence of full scientific certainty should not limit precautionary measures to protect the environment. Whenever serious or irreversible damage is anticipated, the action should be postponed or cancelled.

He then proceeded to analyse the legal implications of the worst nuclear disaster ever in history – the Chernobyl accident in 1986. Although no country brought a formal claim against the Soviet Union for damages to crop animals and human health resulting from the 1986 Chernobyl accident, the numerous payments made by Russia and Ukraine provide evidence of a recognition of responsibility for the damages caused. Quoting the 2005 Human Consequences Report: "After the Soviet Union broke up in 1991, Chernobyl became a key factor in domestic politics and in relations between the three new states. Belarus and Ukraine demanded compensation from Russia for the effects of the accident (…) Especially in the case of Belarus and Ukraine, Chernobyl benefits came to represent a heavy burden on the national budgets and drained resources away from other areas of public spending. By the late 1990s, however, scaling them down, or exploring alternative strategies had become politically impossible (p. 29)." There were varieties of

compensation in the most affected countries, i.e. the Soviet Union, Russia, Belarus and Ukraine. Of this, 35% went on social assistance to affected people and 17% on resettlement.

The Law of Ukraine on Status and social Protection of Population suffered from the Chernobyl Disaster (1991) recognised liability to the following groups of the population: (1) Immediate victims directly exposed to radiation – the liquidators who worked on the site of the accident or in the exclusion zone in 1986 or 1987. (2) People affected by the accident (divided by three zones of

radioactive contamination: Exclusion zone, mandatory relocation zone, and voluntary relocation zone):

Those evacuated from the exclusion zone in 1986, those who left a voluntary relocation zone after the accident (were paid to resettle), those who refused to leave and continued to reside in these two

Zones, those who returned and lived in the second zone for two years or in the third zone for three years as of 1993, those working or studying in any of three contaminated zones and those who became ill because of radiation not connected to Chernobyl accident such as improper disposal of radioactive waste where no intent was established (causation has to be medically confirmed).

Damages recognised for compensation in this Act: ***Harm to health or loss of ability to work*** (medically confirmed disability has to be traceable to Chernobyl accident, causation is established upon physical exam after which a person receives disability document, medical examination to be repeated every 3-5 years to confirm disability and evaluate treatment results, except for persons with unrecoverable health changes, senior persons, or persons with Group I or II disability). ***Death of bread-winner*** and ***monetary damages*** (cost of relocation, loss of property).

The state accepted responsibility for timely medical examination, radiation tests and medical treatment of liquidators and people affected by the accident. Related data on all liquidators and people affected by the accident is listed in the State Register maintained by the Defense Ministry, Internal Affairs

Ministry, and National Security Ministry and is made available to local medical institutions assigned by the place of residence and to each person individually. Confidentiality of these medical records is guaranteed and enforced.

Quoting again the 2005 Human Consequences Report: “The system of compensation payments established after the accident reflected a Soviet practice of, in effect, compensating exposure to risk rather than actual injury. Belarusian and Russian legislation provides more than seventy, and Ukrainian legislation more than fifty, different privileges and benefits for Chernobyl victims, depending on factors such as the degree of invalidity and the level of contamination (p. 30-31).”

These benefits and privileges are: For group I disabled person (liquidator) - $2,820/month, group II – $2,115/month, group III – $1,410/month, disabled child – $470/month, for family that has lost a bread-winner –$2,820/month and parents of a deceased person – $1,410/month. Also: Pensions to compensate harm to health (for persons capable of working), payments in addition to earned wages and harmful work condition payments to persons working in contaminated zones, state housing provided to liquidators and evacuees, priority right on state housing for other affected persons, paid medical examination, mandatory irradiation tests, paid medical treatment and medicines, paid social and psychological rehabilitation services, aid health holidays, priority admission to universities and paid public transportation for liquidators.

Quoting 33 Digest Report: “Some 7 million people are now receiving (or at least entitled to) special allowances, pensions and health care privileges as a result of being categorized as in some way affected by Chernobyl.”

John Van Dyke concluded his presentation by defining what a sound nuclear liability regime should require. This would be the following: Strict Liability and no monetary limits on liability. Damages must be defined broadly, and include damages resulting from perceived fears from an incident even if no radioactivity has yet been released (Can one claim compensation for having been put at risk of getting cancer by the activities of others, i.e. on the basis of fear of getting cancer based on a reasonable analysis of risks created by a nearby hazardous facility. What if the infliction of emotional distress is not “intentional”? In the Three-Mile Accident Case (1979) $71,000,000 was paid in compensation for health injuries, property damages and emotional distress). A neutral tribunal must be available. With respect to shipments of ultrahazardous radioactive cargoes: All parties – shipper, owner of cargo, and relevant governments – must be liable. Also: No statute of limitations. An adequate compensation fund must be established.

22. *Monika Hinteregger*, University of Graz’s Faculty of Law, gave a presentation on **“The new Austrian Act on Third Party Liability for Nuclear Liability.”** *The Federal Act on Civil Liability for Damage caused by Radioactivity* (a.k.a. *Atomic Liability Act 1999*, in German: *Bundesgesetz über die zivilrechtliche Haftung für Schäden durch Radioaktivität - Atomhaftungsgesetz 1999 – AtomHG 1999*) covers nuclear plants and nuclear material on Austrian territory. The law also applies to damage caused by ionising radiation from abroad, but damages can only be awarded to the extent that the national law of the person who suffered damage makes provision therefore, cf. section 23 (2). The definition of nuclear material, which is based on 18 of *The Convention on the Establishment of a Security Control in the Field of Nuclear Energy* is broad in order to prevent manipulation and liability escape. The Act regulates the operators of a nuclear plants (strict liability) and carriers of nuclear material (has to know that the transported material is nuclear). Liability is unlimited in amount, therefore there is no exclusion of complaints, and no grounds for exemption of liability are provided. The judgement will be enforceable against the operator. Nuclear liability includes compensation for loss of life or personal injury, loss of property or damage to property, decontamination costs, costs of measures of reinstatement and costs of preventive measures. However, claims in this last respect are limited to 40,600 Euro per person. Pursuant to the Act’s section 30, “The Federal government shall report to the National Assembly not later than 31 December 2001, and every third year thereafter, in respect of the development of international instruments on liability for nuclear injury, especially in respect of amounts of compensation available on an international scale.“ The operator of a nuclear plant has to be insured for at least 5,6 billion ATS (approximately €400 million) for nuclear damage plus 560 million ATS (€40 million) for interest and cost. For research and pilot plants it has to be a minimum amount of 560 million ATS plus 56 million ATS (€4 million) for interest and cost and for a carrier of nuclear material at least 560 million ATS (€40 million Euro) plus 56 million ATS (€4 million Euro) for interest.

Suppliers of products or services can also be sued, cf. section 16 (2): “Persons having suffered damage may also bring proceedings directly in the courts against persons who delivered goods or rendered services to the operator, except where the defendant can prove that: Judgement is expected within a reasonable time on a previous complaint filed against the operator of a nuclear installation. The judgement will be enforceable against the operator and adequate funds are available for compensation in the event of the operator’s liability. “

The Act also regulates proof of causality, cf. section 12 (1): "If the person who suffered damage shows a strong possibility that his body was exposed to ionising radiation from a nuclear installation, nuclear material or radionuclides, then it shall be presumed that the damage was caused by the ionising radiation, insofar as it is the type of damage caused by ionising radiation. The presumption is rebutted if the defendant shows a strong probability that the damage was not caused by ionising radiation."

23. *Leo Seserko* from University of Ljublana gave a presentation on **"Legal Instruments to Phase Out Nuclear Facilities: Initiatives and Referendum,"** emphasising that these are the all-important legal instruments to phase out nuclear facilities. The other way to do it is vote by elected presentation, i.e. parliament or government. The downside of this option is that it can easier be annulated by a later parliamentary majority. In contrast, the use of the initiative and referendum to phase out nuclear facilities can hardly be rejected by a newly elected parliament after once being successfully voted by an entire electorate. According to Leo Seserko, there is an evident difference between the historical wave of the successful referenda that had revealed popular refusal of a nuclear facilities (Austria, Basel/Switzerland, Italy, Sweden, Montana/US – referendums were limited to Europe and USA.) in the late 1970ies on one hand and the period since 1990 on the other, when the use of the initiative and referendum has grown substantially worldwide, leading to a flood of new regulations. In recent years there were few successful local or regional initiatives to phase out nuclear facilities and there are three possible groups of reasons to explain this fact: (1) Legal proceedings and limitations to present an initiative or referendum with respect to signature gathering, campaign spending, media accessibility, corporative influence of the nuclear industry, its money spending; condition of the civil society; political alliances and majorities, condition and structure of research and its role in relation to the public opinion, etc. Also: It is the owner's decision whether state or private company to decide on plant lifetime extension. Hence, the characteristics of the actual situation is that a referendum can be successful only if it is not seen as a threat to national security. Governments no longer have to behave in a non-partisan way as opposed to before when they acted in a non-partisan way, understanding themselves as representatives of all people and opposed opinions. (2) Structure of the international legal system regarding the nuclear issues: UN, IAEA and EUROATOM as contradictory promoters and opponents of the proliferation of the nuclear industry. (3) Mistrust of political representatives in relation to the instruments of the direct popular voting after some failures: The impact of the voting on the EU constitution, nuclear facilities as legitimacy of the authoritarian political leaderships and juridical tradition as a barrier against referendums.

24. *Linda Malone*, Marshall-Wythe Foundation Professor of Law, William and Mary Law School, Williamsburg, USA, gave a presentation on **"International Environmental Legal and Policy Strategies Available to Civil Society."** The goals of her presentation were to introduce civil society (i.e. NGOs and community groups) to strategies available at the international level enabling them to foster awareness about or solve an environmental degradation problem. The need for this arises from lack of effective domestic strategies in some countries and lack of effective law at the international level.

According to Linda Malone there are various mechanisms and strategies by which civil society may effectively enforce international environmental law. Individuals, groups, NGOs and international organizations have numerous opportunities to play important roles in the monitoring and enforcement of established and emerging environmental norms, independent of any state support or initiation. If an environmental harm is so severe as to infringe upon a human right, a petition against a responsible nation-state may be brought in

one of various international and regional fora, based upon a violation of an environmental human right.

Strategies in this context should include elements like: (1) Narrowing the issue in question, which would imply characterizing the environmental degradation (Where: Atmosphere, hydrosphere, lithosphere, biosphere, When/how long and who: Humans/nonhumans, indigenous, flora/fauna).

(2) Investigating the cause (fact finding: IGO reports, networking, responsible actors: Government/non-government, action/inaction (e.g. funding))

(3) Selecting a forum (subject matter jurisdiction, standing of (or access for) civil society/victim, personal jurisdiction over responsible actor, logistics/resources, human rights bodies, international financial institution/trade mechanisms, intervening in international trade dispute resolution processes, multilateral environmental agreement mechanisms, international courts and tribunals of general jurisdiction and domestic processes (litigation, non-litigation)). At the broadest international level, environmental human rights claims may be brought in several fora within the framework of the UN. At regional international levels, a petitioner may seek redress in courts created under the auspices of the African Union, the Organization of American States, the European Union or the Council of Europe.

Progressive enforcement of international environmental law may well depend upon drawing lessons from the advances in human rights enforcement in domestic courts, use of the more expansive supranational fora available for human rights claims, and greater recognition of the substantive relationship between environmental degradation and human rights violations.

A concerned citizen may determine that an international finance or trade institution is not adhering to environmental and public health standards. Many such institutions have dispute resolution processes which allow interested parties to lodge complaints. Such a claim would allege that a project funded by the institution does not comply with an environmental or public health standard created by and/or required of that institution. In addition, some international trade institutions have fact-finding bodies to investigate whether a member state is failing to comply with its environmental laws.

To bring a matter before this kind of forum, the claimant must simply demonstrate that the claim involves an existing domestic environmental law that one of the member states has failed to enforce.

At times, nation-states and investors may initiate submissions to international trade and investment dispute resolution bodies at the expense of environmental and public health regulations. These dispute resolution tribunals often have the authority to issue binding judgments, which may be enforced either through trade sanctions imposed by these tribunals or by domestic action. If a nation-state or investor wins a judgment that a member-state's domestic environmental or public health regulations conflict with the terms of the trade or investment provisions, the enforcing nation-state may be ordered to stop enforcing the law, change the law, and/or pay compensation to the claimant. In order to prevent such judgments from being issued, concerned citizens and NGOs must monitor and directly intervene in these dispute resolution processes.

Multilateral environmental agreements (MEAs) often provide for secretariats and inter-state dispute resolution processes, each of which yields opportunities for NGO involvement, such as petitioning the MEA secretariat to resolve a particular environmental and public harm occurring within a member-state, encouraging member states to initiate state-to-state dispute resolution under an applicable MEA, or lobbying member states. These strategies may enable NGOs to compensate for, and eventually strengthen, the typically weak enforcement mechanisms found in MEAs.

With international tribunals of broad subject matter jurisdiction, their jurisdiction over parties is often limited only to nation-states. With clever strategizing, however, non-state entities may succeed in getting one of these bodies to hear environmental claims. Finally, a petitioner may seek to enforce an environmental claim in a domestic law forum. While domestic courts may provide binding and enforceable relief, they are often limited in personal and subject matter jurisdiction. Various domestic non-litigation strategies are also available to the citizen, including lobbying legislatures and participating on advisory committees.

(4) Picking a tool (petition, letter petition or letter request, written statement/issue papers, oral statement, critique of national report, Amicus Curiae brief/party brief, comments to federal register or other administrative notice).

(5) Contacting practi*tioner experts* (factors to consider: Evidence (factual), how much, what kind, experts (e.g. science, sociology, etc.), logistics/resources).

V. PANEL FIVE – LEGAL NORMS FOR THE OPERATION OF NUCLEAR FACILITIES UNDER INTERNATIONAL HUMAN RIGHTS LAW, INTERNATIONAL ENVIRONMENTAL LAW AND GENERAL PUBLIC INTERNATIONAL LAW

Chair: *Antony Froggatt*, energy consultant, London

25. *Dinah Shelton*, George Washington University Law School, Washington D.C., gave a presentation on **"What Specific Environmental Rights Have Been Recognized? (focusing on The Right to a Clean and Healthful Environment – The Right to Life – The Right to Family and Privacy)."** According to Dinah Shelton, the interrelationship between human rights and environmental protection is undeniable. National constitutions and laws, like international environmental and human rights instruments and jurisprudence, have recognized both substantive and procedural environmental rights. Environmental laws have tended to focus on procedural rights of information, participation and redress, while international human rights law has examined the environmental dimensions of the right to life, health, cultural rights, privacy and home life. Human rights depend on environmental protection and environmental protection depends on the exercise of existing human rights such as the right to information and the right to political participation. Despite this common core, the two topics remain distinct. If a right to environment becomes widely accepted as part of the human rights catalogue, there remains the problem of balancing it with other human rights. The UN General Assembly has pronounced itself many times on the indivisibility, interdependence, interrelatedness and universality of all human rights. Human health might be seen as the most significant bridge between human rights and environmental protection, being a primary objective of both areas of regulation. Human rights exist to promote and protect human wellbeing, to allow the full development of each person and the maximization of the person's goals and interests, individually and in community with others.

According to Dinah Shelton, the most significant advances have been at the national and regional levels, where courts have issued binding judgments affirming that environmental harm can place a state in violation of its obligations to respect and ensure human rights, including the rights of future generations. Less progress has been made at the global level, where the draft declaration on human rights and the environment remains stalled in the UN Human Rights Commission. Major issues that need to be addressed include the need for further development of a right to a safe and healthy environment, the

problem of non-state actor liability, especially corporate accountability, and how to use environmental rights to prevent and not only to redress environmental harm.

26. *Luis E. Rodriguez-Rivera* from University of Puerto Rico Law School gave a presentation on **"Is the Human Right to Environment Recognized Under International Law?"** According to Luis E. Rodriguez-Rivera, consensus exists that solutions to global environmental problems require a comprehensive and interdisciplinary international approach. Hence, we have witnessed during the past forty years a proliferation of international documents specifically addressing global and regional environmental concerns. The substantive, procedural, and institutional norms derived from these international documents, in conjunction with juridical principles applicable to environmental issues found in customary international law, have coalesced into a body of law commonly referred to as international environmental law.

International environmental law includes the substantive, procedural and institutional norms deriving from hundreds of environmental multilateral treaties, over a thousand environmental bilateral treaties, hundreds of intergovernmental instruments, such as declarations, resolutions and programs of actions addressing many environmental issues. Substantial juridical principles applicable to environmental issues are found in customary law. As a subpart of general international law, international environmental law is inherently interdisciplinary and shares with other international law concepts, issues and strategies.

However, serious gaps exist within current international environmental law requiring the continued expansion of current principles and the development of new norms designed to safeguard human life and health. One obvious gap not effectively covered by international environmental law involves the protection of human life and dignity from threats associated with environmental degradation, particularly when such threats result from the acts or omissions of an individual's own national government or its agents. Moreover, globalization has also increased the possibility that such threats to human life and dignity may also result from acts or omissions of non-state actors. It is precisely in this area of international law where international human rights issues overlap with international and national environmental law issues.

Hence, further development is needed in order to scope with the complexities of modern environmental problems. The expansive human right to environment contains three broad categories of rights: The substantive and antropocentric right to environment, the substantive and eco-centric right of environment and the procedural environmental rights. Environmental rights are the procedural rights needed in order to effectively implement the substantive components of the expansive right to environment. Among the recognized environmental rights are the following: Access to environmental information, participation in the decision-making process of environmental policies, availability of legal remedies to redress environmental harm and due process rights in general. The existence of a human right to environment ultimately rests on whether you adopt a traditionalist view on the sources of international law or a modern view of the same, i.e. a traditional sources doctrine versus modern approach.

According to Luis E. Rodriguez-Rivera the traditionalist view's attitude towards the addition of other sources is inconsistent with the evolution of modern international law and does not reflect the activities that contribute to the development of new norms, such as those derived from acts of international institutions. In order to recognize the existence of the human right to environment under international law, it is imperative to resolve the conundrum involving traditional sources doctrine. Under the traditionalist approach to the development of international law, a human right to environment would be recognized only

if evidenced through the traditional sources of environmental law (Article 38(1) of the Statute of the International Court of Justice). However, modern international law expands the sources doctrine in order to include other evidences more responsive to a modern, globalized world where non-state actors and soft law are more relevant than ever in the construction of international law.

Many soft law instruments and actions of state and non-state actors evince the maturation of the human right to environment under modern international law. Of course, much more needs be done to further strengthen its implementation and define its content.

Regarding the implementation of the human right to environment, national courts and international adjudication institutions must continue to serve as conduits of justice and vindication for violations to the human right to environment. Thus, standing and access to these forums is an essential element for the effectiveness of the human right to environment.

As to the content of the human right to environment, the precise minimum standard of environmental quality that allows for a life of dignity and well-being, and the precise levels and types of risk to human life and dignity which would in essence constitute violations of the right to environment are questions best handled under modern international law through interdisciplinary soft law approaches. The answer to these questions will in turn begin to answer whether the human right to environment is applicable to issues involving the use or disposal of nuclear material, among other issues.

VI. PANEL SIX – STRATEGIES FOR THE FUTURE AND THE ROLE OF CIVIL SOCIETY AND NGOs

Chair: *Per De Rijk*, World Information Service on Energy (WISE), Amsterdam

A round-table discussion on specific follow-up activities took place. The participants were members of the organizing committee, presenters and persons with a strong background of relevant activities.

DRAFT CONFERENCE CONCLUSIONS

Alexandre Kiss, Jon Van Dyke and *Michael Geistlinger* made the following draft conclusions for the conference:

(1) States are responsible under general international law for any damage caused outside their jurisdiction by nuclear activities, including those caused by the siting and operation of nuclear facilities and the transport and disposal of nuclear wastes. States must in this regard exercise due diligence.
(2) The current study of the International Law Commission on the responsibility of States for internationally wrongful acts should take explicitly into consideration damage resulting from nuclear activities, with contributions to this work by the civil society to the extent possible. In particular, the problem of defining what constitutes sufficient injury in this field should be studied further. Even States only potentially affected or which cannot provide injury should be able to claim.
(3) The obligations resulting from international treaties as well as from national legislation protecting humans such as the right to life, to health, to the respect of private life, to information, to due process and to non-discrimination must be complied with, taking into account the potential influence of nuclear activities on the exercise of such rights.
(4) Similarly, international agreements aiming at the protection of the environment must be complied with, considering the possibility of the influence of nuclear activities on the objects of protection.
(5) International treaties and regulations aiming at the prevention of nuclear damage should be further developed, especially by the IAEA, if necessary with assistance of other international organisations. Such organisations should be invested with the necessary means to control compliance by the States with the international rules and norms related to nuclear security, especially by the regular submission of reports by States and by onsite inspection.
(6) NGOs must coordinate and concentrate their efforts on obtaining observatory status in international bodies in charge of drafting and on the surveillance of compliance with such rules and norms related to nuclear activities.

THE SALZBURG DECLARATION OF SUPPORT

We, the undersigners, participants to the International Conference on "Updating International Nuclear Law" held in the city of Salzburg, Austria, in October 19-23, agreed on the following issues:

To support the struggle of citizens, NGOs and academic people against Temelin nuclear power plant in the Czech Republic.

To support the struggle of citizens, NGOs and academic people against the reopening of the Sierra Pintada uranium mining at San Rafael (Mendoza, Argentina).

To support the struggle of citizens, NGOs and academic people against radioactive waste transport, and the German intermediate storage site of Gorleben.

To support the struggle of citizens, NGOs and academic people against life extension of the Dutch nuclear power plant of Borssele.

To support the struggle of citizens, NGOs and academic people against the severe radioactive pollution of the Baltic Sea – and to introduce a moratorium on any further nuclear project at the Baltic Sea (including Swedish and Finnish final repositories of spent nuclear fuel).

To support the struggle of citizens, NGOs and academic people suffering from the devastating consequences of the Chernobyl disaster, and fighting for recognition even almost 20 years after.

To support the struggle of citizens, NGOs and academic people against the life extension of the nuclear power plant of Embalse in Cordoba (Argentina).

To support the struggle of citizens, NGOs and academic people for securing and rehabilitating sites affected by COGEMA/AREVA's uranium mining in the Limousin region (France).

To support the struggle of citizens, NGOs and academic people against the continuing operation of South African nuclear power plants - and to support the efforts to recognize and mitigate the devastating health effects on workers at the Pelindaba Nuclear site in South Africa.

- 2005-12-03 -