# MONTHLY POLICY REVIEW

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## NATIONAL

**Energy Bill passes Senate** (AP 4/25/2002) – After six weeks of debates, the Senate passed an energy bill, by a vote of 88-11. The bill includes tax breaks for conservation and energy production, incentives to increase use of ethanol, and a ban on the use of the gasoline additive MTBE. It also includes a 10% Renewable Portfolio Standard, which requires that utilities purchase 10% of their energy from renewable fuels such as wind, solar, and biomass. The legislation allows utilities to purchase renewable energy credits for 1.5 cents per kilowatt-hour, in lieu of obtaining power purchase contracts with renewable energy suppliers. The bill does not include provisions for drilling in the Arctic National Wildlife Refuge (ANR) or increased fuel economy standards for vehicles, two of the most contentious debates surrounding the bill. The Senate bill would provide $14 billion in tax breaks over ten years, aimed at renewable energy, conservation programs, and fossil fuel energy producers. The House version contains $33 billion in tax incentives, focused more toward oil, gas, coal, and nuclear industries. The energy bill faces tremendous challenges in Conference Committee, as leaders try to reconcile it with the House version passed earlier in the session.

**Farm Bill remains at impasse** (AP 4/16/2002) – House members on April 16 walked out of conference negotiations with the Senate. The Republican-controlled House and Democrat-controlled Senate reached an impasse on issues including rates for farm subsidies, caps on payments to individuals, expansion of conservation programs, restoration of food stamps to non-citizens, and a ban on meatpacker ownership of cattle and hogs. Details of the negotiations were kept secret, as aides were dispatched from the room for much of the latter stages of negotiation. Low commodity prices, attributed to slow export sales and a strong dollar, have driven up the cost of subsidies by nearly $10 billion. The bills are H.R. 2646 and S. 1731.

From Vote Smart, status of legislation:
Vote to pass a bill that would authorize $167 billion over ten years for farm price supports, conservation programs, food aid and rural development. Authorize $5 billion annually through 2012 to growers of corn, wheat, soybeans, rice and cotton. Payments would be made on a countercyclical program, meaning they would increase as prices dropped. Fixed payment plans based upon acres planted and set aside for conservation would be retained from the previous farm law. Eliminate a marketing tax on sugar at a cost of $440 million over 10 years, reduce the interest rate on sugar price support loans and authorize a payment-in-kind program that would allow growers to pay loans in sugar instead of cash. Extend a milk price support program through 2011 at a cost of $773 million. Create several marketing assistance loan programs similar to those for other commodities, including a loan program for wool and mohair at $164 million over 10 years and a honey loan program. Overhaul the peanut commodity program at a cost of $3.4 billion to make it resemble other crops' arrangements more closely. End the marketing quota program and pay quota holders for the loss of crops they planted under it. Give the Agriculture secretary the authority to combat outbreaks of plant and animal diseases with emergency funds. Provide an additional $200 million in spending authority for surplus

commodity purchases. Create a Technical Assistance Specialty Crop fund to assist with barriers to fruit and vegetable trade. Authorize $15 million annually for the life of the bill for the Senior's Farmers Market Program. Authorize $16 billion through 2011 for soil, water and wildlife programs. Authorize $1.4 billion for the Conservation Reserve Program through 2011, with a 39.5 million-acre enrollment cap. Authorize $10.3 billion through 2011 for the Environmental Quality Incentive Program.
http://www.vote-smart.org/index.phtml

**Bush threatens appropriations veto** (AP 4/16/2002) - President Bush cautioned Congressional leaders to restrain spending in this year's budget. For the first time, Bush publicly threatened use of a veto, which would put Congress in a difficult position at the height of the fall campaign. The threat appears aimed at stiffening the resolve of leaders in the House of Representatives, which had a Republican majority, to resist spending increases in non-defense discretionary programs. The President's budget calls for a 7% increase in overall discretionary expenditures, but that reflects a 13% increase in defense and homeland security spending and a 0.8% increase in the remaining program areas.

**Science Committee offers 'Views and Estimates'** (OceanSpace 3/28/2002) - The U.S. House Science Committee released its recommendations on the Fiscal Year 2003 budget. According to the report, "Science and technology are the keystones of our economic prosperity and national security. But advances in science and technology do not come cheap or without focused effort; nor are they solely the responsibility of the private sector. While the percentage of national R&D sponsored by the federal government has declined in recent years, the federal role remains essential. Indeed, as competitive pressures have led many industrial enterprises to focus research on projects with shorter-term benefits, longer-term research depends more than ever on federal support." The Committee was critical about the large increases for large biomedical sciences and called for an 8.8% increase, before transfers, for the National Science Foundation. The Committee also supported the Administration's budget request of $15 billion for NASA.
http://www.oceanspace.net/index.cfm?issue=164

## AGENCY NEWS

**New Assistant Secretary of Commerce for Oceans and Atmosphere** (NOAA 4/2/2002) – James Mahoney was sworn in as the Assistant Secretary of Commerce for Oceans and Atmosphere, the position that manages NOAA. Mahoney received a doctorate from MIT and was a faculty member in Public Health at Harvard University. He co-founded Environmental Research and Technology, which became the nation's largest environmental firm in the 1970s. Mahoney's public service includes Director of the National Acid Precipitation Assessment Program, a representative of the U.S. in specialist exchanges, and advisor to several UN and international agencies. He served on several committees of the National Academy of Sciences and was co-chariman of the Academy's Board on Atmospheric Science and Climate. Dr. Mahoney also served as President of the American Meteorological Society from 1990-1991.
http://www.publicaffairs.noaa.gov/releases2002/apr02/noaa02036.html

**NWS appoints new Operations Chief** (NOAA 4/2/2002) – John McNulty, a long-time engineer and logistics expert in the National Weather Service, was appointed to lead the NWS's Office of Operational Systems. McNulty was actively involved in the NWS modernization efforts, particularly with integrating ASOS data into NWS operations. He joined the NWS in 1989 as an engineer involved in designing and implementing projects involving several operational weather systems. In 1996 he became head of the NWS Maintenance, Logistics and Acquisition division.
http://www.publicaffairs.noaa.gov/releases2002/apr02/noaa02035.html

**NOAA automates weather and oceanographic information** (OceanSpace 4/9/2002) – NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) has developed a new centralized, dial-in, automated service that provides information about weather and oceanographic conditions in busy ports and waterways, including the Great Lakes. Users can dial a 1-800 number connected to CO-OPS PORT system, to hear real-time observations and predictions of water levels, coastal currents, and other meteorological and oceanographic data.
More at http://co-ops.nos.noaa.gov/.
http://www.oceanspace.net/index.cfm?issue=167

## STATE / LOCAL

**State budget spares education and health care** (Oklahoma Daily 4/3/2002) – Oklahoma's House and Senate leadership reached a budget agreement that spares education and health-related agencies from budget cuts in Fiscal Year 2003. All other programs will receive a 5% across-the-board budget cut. The deal keeps the following departments at the adjusted 2002 levels: education (K-12, higher ed, career technology), Oklahoma Health Care Authority, the State Department of Mental Health, the Department of Health and Human Services, the Department of Veterans Affairs, the School for Science and Math, and the Schools for the Deaf and the Blind. $98 million of the state's $340 million reserve in the rainy day fund will be used to balance the budget. An additional $35 million will be used from the 'emergency' portion of the rainy day fund for K-12 education health-care costs. OU President David Boren implemented a 2% cut earlier this year, in anticipation of cuts in state funding.

**State spending cuts** (Oklahoman 4/7/2002) – The Legislature's budget deal cuts expenditures from two to five percent in each of the six categories of state government. The General Conference Committee on Appropriations released the following figures:

- Education: 2% decline ($3.070 billion 2002, $3.008 billion 2003)
- General Government: 5% ($153 million 2002, $146 million 2003)
- Health and Human Services: 2.1% ($1.267 billion 2002, $1.241 billion 2003)
- Judiciary, Public Safety and Law Enforcement: 5% ($612 million 2002, $582 mil 2003)
- Natural and Regulatory Services: 5% ($122.7 million 2002, $116.5 million 2003)
- Miscellaneous: 5% ($284.3 million 2002, $270.1 million 2003)

The figures do not include supplemental appropriations from rainy day funds that will restore education cuts and cover additional corrections costs.

**State deepens FY02 budget cuts** (Oklahoman 4/10/2002) – March revenues were down substantially from projections, resulting in even larger cuts for state agencies. Agencies have been ordered to cut their monthly budgets by 6.64% for each of April, May and June. The decreased revenues are attributable to natural gas tax collections well below estimates and an increasing number of tax refunds. Natural gas revenues for March were 72.6% below estimates, but are expected to rebound slightly in April due to higher gas prices. The news caused turmoil with the legislature, and threatened the FY03 budget deal reached the previous week.

**Prison funding source of concern** (Oklahoman 4/16/2002) – Lawmakers criticized the Corrections department over escalating costs associated with housing Oklahoma's inmates. Many focused upon the costs associated with private prisons, which several described as an endless hole. The Corrections department says it needs $23 million additional appropriation to complete the current fiscal year, down from an earlier request for $30 million. Both lawmakers and corrections officials are looking at contingency plans should supplemental funds not be available. The Corrections shortfall places additional pressures on the FY2003 state budget, already expected to come in $350 million below the previous year's revenues.

**Number of small farms rising** (Oklahoman 4/7/2002) – Oklahoma is now home to 86,000 farms, an increase of 1,000 farms from 2000 to 2001. The growth has been in small farms, whose average size is 122 acres and sell between one and ten thousand dollars of agricultural products. Medium-sized farms have continued their decline, decreasing by 500 to 26,000 in the past year. Large farms remained unchanged at 6,000, but increased in size by an average of 34 acres. The growth in small farms is attributed to people who want to get away from urban sprawl.

**Governor Keating to join American Council of Life Insurers** (Oklahoman 4/16/2002) – Governor Keating is slated to become the president and chief executive of the American Council of Life Insurers when his term ends in January. The organization represents nearly 400 life insurance companies and is based in Washington, D.C. Keating will replace Carroll Campbell, the former governor of South Carolina, and will receive a salary and benefits package worth more than $1 million per year.

**OU Faculty member elected to City Council** (Oklahoma Daily 4/10/2002) – David Ray, Associate Professor of Political Science, was elected to the open Ward 4 council seat. Ray won the runoff election with 60% of the vote. He plans to focus on parking, code enforcement and revitalization. "Two things make Norman special: the university and the strong, diverse and revitalized neighborhoods around it," Ray said. "I want to help sustain a resurgence in campus neighborhoods and all the Campus Corner districts." Ray, 56, received his B.A. degree from Yale University and his M.A. and Ph.D. degrees from Stanford.

**Outer Loop to go along Moore-Norman boundary** (Oklahoman 4/16/2002) – The state Transportation Department unveiled the latest plan for an outer loop around Oklahoma City. The loop would extend from the present end of the Kilpatrick Turnpike, at about SW 15$^{th}$ just west of Sara Road, through southwest Oklahoma City, and connecting to I-35 just north of Indian Hills Road. There are presently no plans under consideration for an eastward extension of the loop. The road may not be built for 20 years, but the Transportation department is taking steps to "protect the corridor" until construction can begin. The estimated cost of construction is $300 million, but a source of funding has not yet been identified.

## BUSINESS / TECHNOLOGY

**First quarter figures show economic rebound continues** (AP 4/16/2002) – Consumer prices rose at an annual rate of 3% for the first quarter of this year, compared to a 1.6% rate during 2001. Much of the increase is attributed to rising energy prices. Industrial activity rose 2.5% in the first quarter of this year, rebounding from a 6.7% decline the previous quarter. Housing starts remained strong in March, although declining a bit from their February peak, and have been robust throughout the brief recession.

**Technology seen as solution to oil problems** (Oklahoman 4/16/2002) – Carl Michael Smith, assistant secretary for fossil energy in the U.S. Department of Energy, said that new technologies could lead to production of up to 12 billion barrels of crude oil in Oklahoma – as much as has been produced since Oklahoma's first well in 1897. Smith, former Secretary of Energy in Oklahoma, said that stripper wells are a big part of the nation's oil production and needs to be maintained. He pointed to supply problems from other countries and transmission difficulties in terms of pipeline infrastructure, that make domestic supplies even more critical. Smith spoke at the Improved Oil Recovery Symposium in Tulsa. The first such symposium in 1975, also held in Tulsa, predicted that the U.S. would be energy independent in 1990.

**New techniques in photovoltaics** (UniSci 4/25/2002) – Researchers at Colorado State University have developed a process that creates efficient photovoltaic cells at a fraction of existing production costs. The technique promises the ability to produce a sufficient number of cells to power a house in 5-10 hours, nearly 100 times faster than current methods. This new technology should reduce costs of production to less than $1 per watt, of electricity generated, competitive with current methods of electricity generated. The project was funded by the National Science Foundation, the Environmental Protection Agency, the Department of Energy and the National Renewable Energy Laboratory.
http://unisci.com/stories/20022/0425025.htm

**OSU alum hailed as father of the PC** (Oklahoman 4/16/2002) – Ed Roberts, who earned his degree from Oklahoma State University's College of Engineering, Architecture, and Technology in 1968, has been recognized as the Father of the Personal Computer. In 1975, Roberts and his colleague, Bill Yates, created the first commercial personal computer, the Altair 8800, nearly two years before IBM and Apple unveiled their creations. The computer retailed for less than $500 but had no keyboard, no video display, and 256 bytes of memory. Thanks to a partnership with two young programmers, Paul Allen and Bill Gates, the Altair soon had a new operating system – BASIC – that greatly increased its flexibility. Bill Gates praised Roberts for "designing his computer in a way that would accommodate software written by third-party developers." Roberts sold his company in 1978, and left the computer business altogether a few years later. He since went back to medical school and became a doctor of internal medicine. He currently practices in a small town in central Georgia.

## WEATHER

**No tornado fatalities in U.S. this year** (NOAA 4/15/2002) – The Storm Prediction Center reports that there have been no tornado fatalities within the United States so far in 2002, marking the longest the nation has gone in any year without a tornado-related death since records began in 1950. Only 59 tornadoes had been reported through April 15, the lowest tornado count since 1994 and significantly below the long-term average. The low tornado counts are partially attributable to spring storm tracks, which largely spared the southeastern states. [Note: the streak came to an end on April 28 as several tornadoes struck across Missouri, Tennessee and Kentucky. That evening, another tornado, this one rated F5, killed three people in Maryland – the first F5 in state history and the first since the F5 tornado that struck Moore, OK on May 3, 1999.]
http://www.noaanews.noaa.gov/stories/s888.htm

**TERRA satellite data confirm unusually warm, dry U.S. winter** (NASA 4/8/2002) – NASA's TERRA satellite showed higher land-surface temperatures and a snow line further north than normal for the winter 2001-2002. The MODIS sensor measures thermal radiation emitted from the Earth's surface in clear-sky conditions. Results showed temperatures 3 degrees C higher in daytime and 2 degrees C higher in nighttime than the winter of 2000-2001. The MODIS sensor has been operational for two years, so long-term comparisons are not possible. "Unlike conventional observations of surface temperature that are actually measurements of air temperature collected by thermometers 2 meters (6.6 feet) above the ground, MODIS measures precisely the thermal radiation emitted from the planet's surface-whether that surface is bare ground, lakes, treetops, or rooftops." Comparisons to surface-based temperature readings were found to be within 1 degree C of each other.
http://www.gsfc.nasa.gov/news-release/releases/2002/02-053.htm

**Drought reduces cattle stocks in northwest Oklahoma** (Oklahoman 4/21/2002) – Farmers and ranchers in northwestern Oklahoma are trying to hold on for one more month to see if rains will alleviate drought conditions that are beginning to take a toll on the cattle industry. Many ranchers have put off purchases of cattle, and others are looking to rent pasture elsewhere to accommodate their stocks until times improve. Feed is in short supply, as hay is scarce across a wide area of the Panhandle and southwest Kansas due to an ongoing drought. The price of hay, when it can be found, is going for nearly twice the normal price. The state Department of Agriculture has no plans to assist stockmen, because there are no ample supplies of hay they can ship in from elsewhere. The first cutting of alfalfa hay typically occurs by mid-May, so farmers are hoping that hay will become available then. Parts of the region are four to eight inches below normal rainfall for the period October 1 to April 18.

**Colorado wildfire rages** (AP 4/25/2002) – A wildfire in the foothills southwest of Denver forced the evacuation of a town of 4,400 people as it spread to 2,400 acres. Cooler weather helped firefighters gain control, but the blaze still poses a threat. A winter drought contributed to conditions conducive to wildfires, which are currently active across Colorado, Arizona, and New Mexico.

**El Nino impacts on economy** (NOAA 3/6/2002) – A new El Nino episode is developing, which is expected to influence the U.S. Weather during 2002-2003. Impacts, most pronounced during the fall and winter months, typically associated with El Nino include: a below-normal number of Atlantic tropical storms and hurricanes, drought in the Pacific Northwest and southwestern U.S., above-normal precipitation in Central and Southern California and the Gulf Coast states, and a warmer than normal late fall and winter in the Northern Plains and Upper Midwest. Ten percent of the U.S. economy is directly impacted by the effects of weather, and another 15% is indirectly impacted (such as insurance, retail, and manufacturing). Improved forecasting allows decision-makers the chance to adjust operations, including emergency preparedness, energy demands, water resources, and agricultural stocks.
http://www.noaanews.noaa.gov/magazine/stories/mag24.htm

**El Nino may not be so strong in 2002** (Reuters 3/28/2002) – A negative phase in the Pacific Decadal Oscillation (PDO) may attenuate the El Nino warming presently underway. The negative phase, which began in 1998, is typically associated with colder winters in North America. The PDO changes on a scale of 20-30 years.

**New remote sensing system detects hazardous in-flight icing conditions in clouds** (NOAA 4/12/2002) – NOAA's Environmental Technology Laboratory (ETL) announced a new technique to identify clouds most likely to pose a threat of icing to aircraft. ETL designed a system that combines microwave radiometer technology to measure the amount of liquid water in clouds with dual polarization radar to distinguish types of ice nuclei. The result is "an extremely sensitive, and autonomous radar" that monitors clouds within the airspace of airports and provides warnings to air traffic controllers. The FAA is supporting an operational-grade prototype known as the Ground-Based Remote Icing Detection System (GRIDS).
http://www.noaanews.noaa.gov/magazine/stories/mag28.htm

## CLIMATE

**Administration move to replace IPCC Chairman** (OceanSpace 4/4/2002) – The Bush Administration has decided to oppose a second term for Intergovernmental Panel on Climate Change (IPCC) Chairman Dr. Robert Watson. The U.S. opposition damages Watson's prospects of obtaining a second term when representatives of more than 100 governments meet in Geneva April 17-20 to elect a new IPCC head. The Natural Resources Defense Council (NRDC) obtained a memo from the White House Council on Environmental Quality, showing ExxonMobil has sought Watson's removal since the early days of the Bush Administration. This week, lobbyists for the coal industry, electric utilities, and automakers joined in the call to replace Watson. According to Daniel Lashof, science director of the NRDC Climate Center, "Now they want to control the science too." The IPCC, which operates under the United Nations, is a 2,500-member panel of experts designed to provide policymakers with rigorous, consensus-based assessments of global warming and its causes. The NRDC memo is available at http://www.nrdc.org/media/docs/020403.pdf.
http://www.oceanspace.net/index.cfm?issue=166

**El Nino and Southern Ocean changes linked** (NASA News 3/5/2002) – NASA reports that El Nino / Southern Oscillation events appear to impact sea ice distribution around Antarctica. Within certain areas around the continent, Southern Oscillation conditions are correlated with higher sea level pressure and higher air and sea surface temperatures. These changes are manifested in a reduction of sea ice coverage. The study looked at data from 1982-1999, which included four El Nino episodes. The findings are published in the March 1, 2002 issue of the Journal of Climate ("Southern Ocean Climate and Sea Ice Anomalies Associated with the Southern Oscillation," R. Kwok, and J. C. Comiso, pages 487 501).
http://www.gsfc.nasa.gov/news-release/releases/2002/02-042.htm

**Arctic could be ice-free by 22nd century** (OceanSpace 4/2/2002) – Scientists from Cambidge report warming of Arctic Ocean waters, causing a 40% thinning of ice from below. While global warming would not be sufficient to melt the ice from above (a one-degree C change in an area that averages –30C in wintertime), but a 1-2 degree warming below the ice changes salinity and stability, contributing to a rapid thinning. Seasonal sea lanes could be open by 2050, and the area could be ice-free by 2080, if such thinning continues.
http://www.oceanspace.net/index.cfm?issue=165

**How did global warming catch on?** (UniSci 3/28/2002) – A study by the University of Gloucestershire in the UK shows that the concept of global warming was around for nearly a century before the idea caught on. They attribute the attention to a combination of new scientific evidence, increased computer power, a widespread acceptance of human responsibility for other environmental problems (such as ozone depletion and acid rain), a concurrent rise in global average temperatures and a changing science research agenda driven by political and funding considerations. The apocalyptic computer-based scenarios of the 1980s, hyped by the media, drove environmental groups and the general public, placing pressures on politicians, policy makers and research councils to increase funding and research for climate modeling.
http://unisci.com/stories/20021/0328023.htm

## ENVIRONMENT

**O Black Water, Keep on Rollin'** (OceanSpace 4/9/2002) – Beginning in late January, a mysterious area of "black water" was detected by satellites. The area is located between the Florida mainland and Keys. NOAA's National Center for Coastal Ocean Science (NCCOS) reports the water discoloration was due to an unusually large discharge of water, high in tannins, from the Florida Everglades. The event is associated with a decaying coastal bloom of algae, and is apparently not a threat to marine life in the affected area. Blackwater event status reports can be found at http://www.floridamarine.org/.
http://www.oceanspace.net/index.cfm?issue=167

**EPA releases environmental report card on coastal waters** (OceanSpace 4/4/2002) – The EPA, NOAA, USGS, and U.S. Fish and Wildlife Service collaborated on a study of the U.S. coastal waters. The report evaluated conditions as fair to poor. This, the first report card, provides a benchmark for measuring future cleanup progress. Efforts targeted toward watershed protection, habitat restoration, and reduction of both point and non-point pollution sources are critical to improving the health of coastal waters. The Bush Administration proposed $21 million in new funding for watershed protection. The report is available at http://www.epa.gov/owow/oceans/nccr/.
http://www.oceanspace.net/index.cfm?issue=166

**EPA announces plan to clean up Great Lakes** (OceanSpace 4/4/2002) – EPA Administrator Christine Todd Whitman unveiled a plan to clean up and restore the Great Lakes. The plan seeks to reduce the concentration of PCBs in lake trout and walleye by 25% in five years, restore or enhance 100,000 acres of wetlands by 2010, reduce the further introduction of nonnative species, and speed up sediment cleanup by 2025. More about the plan at http://www.epa.gov/region5/.
http://www.oceanspace.net/index.cfm?issue=166

**EPA to review pesticide use** (AP 4/19/2002) – In a settlement with California environmental groups, the EPA has agreed to review the use of 18 commonly used pesticides that may affect endangered salmon and woodland plants. The EPA will work with the Fish and Wildlife Service and National Marine Fisheries Service to analyze the pesticides' effects.

**EPA Administrator Whitman sees water as greatest challenge** (Christian Science Monitor 3/28/2002) – Christine Todd Whitman, EPA Administrator, identified water as the greatest environmental issue for the 21st century. She notes EPA has an impact on water quality, while the Department of Interior "and others" deal more with water quantity. She sees the biggest challenge as getting a handle on non-point sources of pollution, such as chemicals running off the driveways. Whitman also noted that $500 billion to $1 trillion is needed for infrastructure repairs in cities nationwide.

**NRC Report proposes nitrogen reduction** (OceanSpace 4/11/2002) – A new report by the National Research Council advocates a comprehensive national strategy to combat nitrogen and phosphorus pollution in coastal waters. The overabundance of these nutrients, especially nitrogen, is causing serious environmental damage, the committee found. Upstream watersheds carry these nutrients from agricultural runoff, wastewater treatment plants, and burnt fossil fuels. Better coordination is needed among states and regions to protect larger watersheds, beyond the purview of a single state. Particularly affected are the mid-Atlantic and Gulf coasts, where a "dead zone" forms along the Louisiana and Texas coasts each spring. The study was funded by NOAA, EPA, USGS, and the Electric Power Research Institute. The report is available from the National Academy Press at http://www.nap.edu/catalog/9812.html, and can be read online. http://www.oceanspace.net/index.cfm?issue=168

**Yucca Mountain heads toward House vote** (AP 4/25/2002) – The House Energy and Commerce Committee, by a 41-6 vote, approved a resolution that would overrule Nevada's rejection of a nuclear waste dump at Yucca Mountain. The resolution now heads to the full House, where it is expected to pass easily. Opponents are focusing upon the Democratic-controlled Senate, which is more resistant to the nuclear waste dump. Advocates argue that a central facility provides safety and security, while opponents worry about a high concentration of radioactive material and possible contamination during shipment from nuclear power plants, most of which are located in the Eastern United States.

**Irrigation gates open at Klamath Falls, OR** (AP 3/31/2002) – Headgates were opened, releasing water for irrigation in the Klamth Basin in Oregon. The headgates had been closed since June 1 last year, due to a drought in the Pacific Northwest. Klamath Falls became a battleground of sorts, with environmentalists wanting water restricted in order to save endangered species and local farmers pressuring for release of water for their business survival. The headgates will remain open for two months, at which time the Department of Interior will re-assess the situation.

**AEP buys Ohio village** (AP 4/16/2002) – American Electric Power (AEP) will purchase the town of Cheshire, OH, in order to resolve a lawsuit relating to emissions from AEP's nearby power plant. The $20 million settlement will provide more than sufficient relocation expenses for the town's 221 residents. Last summer, AEP installed a pollution control system on the coal-fired plant in order to cut nitrogen oxide emissions and attain compliance with EPA guidelines. Chemicals from the system, however, created a blue sulfuric acid haze, that drifted downward over the nearby town on hot, humid days dominated by subsidence. The haze was not life-threatening, but was harmful to those with asthma. AEP continues efforts to curtail the emissions, and noted that purchasing of nearby land will provide them room for future expansion of the plant. [Note: AEP owns PSO of Tulsa].

**US military creates indestructible sandwich**

19:00 10 April 02
Duncan Graham-Rowe
NewScientist.com

First came the atom bomb, the stealth bomber and the airborne laser. Now comes the US military's latest fearsome weapon: the indestructible sandwich.

Capable of surviving airdrops, rough handling and extreme climates, and just about anything except a GI's jaws, the new "pocket" sandwich is designed to stay "fresh" for up to three years at 26 °C (about the temperature of a warm summer's day), or for six months at 38 °C (just over body temperature).

For years the US army has wanted to supplement its standard battlefield rations, called "Meal, Ready-to-Eat" (MRE), with something that can be eaten on the move. Although MREs already contain ingredients that could be made into sandwiches, these have to be pasteurised and stored in separate pouches, and the soldiers need to make the sandwiches themselves.

"The water activity of the different sandwich components needs to complement each other," explains Michelle Richardson, project officer at the US Army Soldier Systems Center in Natick, Massachusetts. "If the water activity of the meat is too high you might get soggy bread."

To tackle the problem, researchers at Natick used fillings such as pepperoni and chicken to which they added substances called humectants, which stop water leaking out. The humectants not only prevent water from the fillings soaking into the bread, but also limit the amount of moisture available for bacterial growth.

The sandwiches are then sealed, without pasteurisation, in laminated plastic pouches that also include sachets of oxygen-scavenging chemicals. A lack of oxygen helps prevent the growth of yeast, mold and bacteria.

Soldiers who tried the pepperoni and barbecue-chicken pocket sandwiches have found them "acceptable". They are now planning to extend the menu to pocket pizzas, as well as cream-filled bagels, breakfast burritos and even peanut-butter sandwiches.

The pocket sandwiches won't see action until 2004. But like dehydrated egg, freeze-dried coffee and processed cheese - all originally developed by the military - the long-life sandwich will probably find its way into grocery stores.