DEPARTMENT OF ENERGY

Sandia National Laboratories/New Mexico Site-Wide Environmental Impact Statement

AGENCY: Department of Energy.

ACTION: Record of Decision.

SUMMARY: The U.S. Department of Energy (DOE) is issuing this Record of Decision on the continued operation of the Sandia National Laboratories/New Mexico (SNL/NM) in the State of New Mexico. This Record of Decision is based on the information and analysis contained in the SNL/NM Site-Wide Environmental Impact Statement (EIS), DOE/EIS–0281, and other factors, such as the mission responsibilities of DOE. DOE has decided to implement the Expanded Operations Alternative without the Microsystems and Engineering Sciences Applications Complex, *i.e.,* the Preferred Alternative in the Final Site-Wide EIS. Under the Expanded Operations Alternative, DOE and interagency programs and activities at SNL/NM could increase to the highest reasonable activity levels, as set forth in the Site-Wide EIS, that could be supported by current facilities and their potential expansion and construction of new facilities for future actions specifically identified in the Site-Wide EIS through 2008.

FOR FURTHER INFORMATION CONTACT: For further information on the Site-Wide EIS or Record of Decision, or to receive a copy of the Site-Wide EIS, contact: Julianne Levings, Document Manager, U.S. Department of Energy, Albuquerque Operations Office, P.O. Box 5400, Albuquerque, NM 87185, (505) 845–6201.

For information on the DOE National Environmental Policy Act (NEPA) process, contact: Carol M. Borgstrom, Director, Office of NEPA Policy and Assistance (EH–42), U.S. Department of Energy, 1000 Independence Avenue, SW, Washington, DC 20585, (202) 586–4600, or leave a message at (800) 472–2756.

SUPPLEMENTARY INFORMATION:

Background

DOE prepared this Record of Decision pursuant to the regulations of the Council on Environmental Quality for implementing NEPA (40 CFR Parts 1500–1508) and DOE's NEPA Implementing Procedures (10 CFR Part 1021). This Record of Decision is based, in part, on DOE's SNL/NM Site-Wide EIS (DOE/EIS–0281). The U.S. Air Force participated as a cooperating agency in preparing the Site-Wide EIS.

SNL/NM is located on the Kirtland Air Force Base, approximately 7 miles southeast of downtown Albuquerque, in Bernalillo County, New Mexico. SNL/NM comprises approximately 8,800 acres of Federal land on the Kirtland Air Force Base. SNL/NM is one of several national laboratories that support DOE's statutory responsibilities for nuclear weapons research and design, development of other energy technologies, and basic scientific research. Sandia National Laboratories is composed of four geographically separate facilities: Albuquerque, New Mexico (SNL/NM); Tonopah, Nevada; Kauai, Hawaii; and Livermore, California. This Record of Decision covers the level of operation of SNL/NM only. DOE has assigned elements of each of its four principal missions (National Security, Energy Resources, Environmental Quality, and Science and Technology) to SNL/NM, and has established and maintains several capabilities in support of these mission elements, including applications of science and technology to the nuclear weapons program. These capabilities also support applications for other Federal agencies and other organizations in accordance with national priorities and policies.

Facility operations are conducted within five Technical Areas (TAs) and outdoor test areas. These TAs comprise the basic geographic configuration of SNL/NM. TA–I is the main administration and support area and contains several research laboratories. TA–II consists primarily of support service facilities and waste management facilities. TA–III conducts primarily physical testing. TA–IV contains primarily accelerator operations. TA–V contains primarily reactor facilities.

The Site-Wide EIS considers the environmental impacts of ongoing and proposed activities at SNL/NM through 2008. DOE expects that it will continue to suggest new programs, projects, and facilities for SNL/NM (or consider SNL/NM as an alternative site for such facilities or activities). Such new proposals will be considered in programmatic or project-specific NEPA reviews, as appropriate, as they become ripe for analysis. Subsequent NEPA reviews for projects or activities at SNL/NM will make reference to, and be tiered from, the Site-Wide EIS, and subsequent DOE decisions on these proposals may result in amendments of this Record of Decision.

Alternatives Considered

DOE analyzed three broad alternative levels of operation at SNL/NM.

Alternative 1—No Action

Under the No Action Alternative, ongoing DOE and interagency programs and activities at SNL/NM would continue the status quo, that is, operating at planned levels as reflected in current DOE management plans. In some cases, these planned levels include increases over today's operating levels. This alternative also includes any activities that have already been approved by DOE and have existing NEPA documentation.

Alternative 2—Expanded Operations

Under the Expanded Operations Alternative, DOE and interagency programs and activities at SNL/NM would increase to the highest reasonable activity levels, as analyzed in the Site-Wide EIS, that could be supported by current facilities and their potential expansion as well as construction of new facilities for future actions specifically identified in the Site-Wide EIS.

In the Expanded Operations Alternative in the Final Site-Wide EIS, DOE described two potential configurations for the Microelectronics Development Laboratory facility. In the first configuration, the Site-Wide EIS analyzed the expansion of operations in the existing Microelectronics Development Laboratory (also analyzed in the Draft Site-Wide EIS). In the second configuration, the Site-Wide EIS presented the available information on the developing proposal for the Microsystems and Engineering Sciences Applications Complex, also known as MESA, including impacts from the construction and operation of additional buildings adjacent to the existing Microelectronics Development Laboratory. DOE included in the second configuration of the Expanded Operations Alternative all available programmatic and environmental information on the Microsystems and Engineering Sciences Applications Complex based on its approved Conceptual Design Plan.

DOE's Preferred Alternative in the Final Site-Wide EIS was Expanded Operations in the first configuration (*i.e.,* without the Microsystems and Engineering Sciences Applications Complex).

The conceptual design for the Microsystems and Engineering Sciences Applications Complex will be finalized in the January 2000 timeframe with the issuance of the Conceptual Design Report currently under preparation. The information on the Microsystems and Engineering Sciences Applications Complex in the Site-Wide EIS is

preliminary (based on the Conceptual Design Plan), and was added after the Draft Site-Wide EIS was issued for public review and comment. Therefore, DOE has determined that an additional NEPA review will be conducted after the conceptual design is finalized to evaluate impacts from the proposed construction and operation of the Microsystems and Engineering Sciences Applications Complex. Based on the current configuration for the proposed Microsystems and Engineering Sciences Applications Complex, DOE is preparing an Environmental Assessment to determine whether an EIS is required and will include an opportunity for public participation.

Alternative 3—Reduced Operations

Under the Reduced Operations Alternative, DOE and interagency programs and activities at SNL/NM would be reduced to the minimum levels of operations needed to maintain SNL/NM facilities and equipment in an operational readiness mode.

Preferred Alternative

DOE's Preferred Alternative is the Expanded Operations Alternative (exclusive of the Microsystems and Engineering Sciences Applications Complex). DOE would expand operations at SNL/NM as the need arises, subject to the availability of Congressional appropriations, to increase the level of existing operations to the highest reasonable foreseeable activity levels as analyzed in the Site-Wide EIS. DOE would only implement expansion at the existing Microelectronics Development Laboratory, without addition of the Microsystems and Engineering Sciences Applications Complex.

Environmentally Preferable Alternative

The Council on Environmental Quality (CEQ), in its ''Forty Most Asked Questions Concerning CEQ's NEPA Regulations'' (46 FR 18026, February 23, 1981), with regard to 40 CFR 1505.2, defined the ''environmentally preferable alternative'' as the alternative ''that will promote the national environmental policy as expressed in NEPA's Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources.''

After considering impacts to each resource area by alternative, DOE has identified Alternative 3, the Reduced Operations Alternative, as the environmentally preferable alternative. DOE identified Alternative 3 as having the fewest impacts to the physical environment and to worker and public health and safety because all operations would be at the lowest levels. Therefore, the Reduced Operations Alternative would have the lowest impacts, and the Expanded Operations Alternative would have the highest impacts among the alternatives analyzed in the Site-Wide EIS. However, the analyses included in the Site-Wide EIS indicate that there would be little difference in the environmental impacts among the alternatives analyzed and also that any impacts would be small.

Environmental Impacts of Alternatives

DOE weighed environmental impacts as one factor in its decision making. DOE analyzed existing environmental impacts and the potential impacts that might occur for each alternative, including the irreversible or irretrievable commitments of resources.

Land Use and Visual Resources

No adverse impacts to land resources are expected as a result of the No Action, Expanded Operations, or Reduced Operations Alternatives. There would be no adverse impacts to visual resources that change the overall appearance of the existing landscape, obscure views, or alter the visibility of SNL/NM structures under any of the alternatives analyzed.

Infrastructure

Electrical consumption would range from 185,000 megawatt hours per year (Reduced Operations Alternative) to 198,000 megawatt hours per year (Preferred Alternative). Projected water usage would range from 416 million gallons (Reduced Operations Alternative) to 495 million gallons per year (Preferred Alternative). Annual projected utility demands for all alternatives would be well within system capacities.

Other infrastructure-related factors, including maintenance, roads, communications, steam, natural gas, and facility decommissioning, would be similar for each alternative and would not pose adverse impacts.

Geology and Soils

Under all alternatives, impacts due to soil contamination would be minimal. Under the Preferred Alternative, however, there would be the potential for increased deposition of soil contaminants in outdoor testing areas. These areas are not accessible to the general public. Potential contaminants would include depleted uranium fragments, explosive residue, and metals contained in weapons that are used in the tests. SNL/NM performs periodic sampling and radiation surveys in these testing areas. Depleted uranium fragments are collected after tests and additional measures are taken to remove any contamination from the soil.

Soil contamination from past research practices is being cleaned up through SNL/NM's Environmental Restoration Project, which is scheduled for completion by 2004. This clean-up would occur at the same rate under the three alternatives.

Water Resources and Hydrology

The impact resulting from SNL/NM's contribution to drawdown in the aquifer derives from both past and present water usage and is considered to be adverse. The estimated SNL/NM portion of local (in the immediate vicinity of the Kirtland Air Force Base) aquifer drawdown from 1998 to 2008 would range from 11 percent (No Action and Reduced Operations Alternatives) to 12 percent (Preferred Alternative). Local drawdown of the aquifer would range from less than 1 to 28 feet across the Kirtland Air Force Base during this period. This drawdown would not have an immediate effect on other water users, spring flow, or land subsidence. Long-term effects would tend to be reduced by the city of Albuquerque's conversion to surface water use, scheduled to begin in 2004. Water demand under each alternative would be within existing Kirtland Air Force Base water rights. As discussed above, under Infrastructure, water usage would range from 416 million gallons per year (Reduced Operations Alternative) to 495 million gallons per year (Preferred Alternative).

Groundwater contamination attributable to SNL/NM activities is present at three sites at the Kirtland Air Force Base. The contamination in the aquifer is due to past waste management practices rather than current operations. Investigation and clean-up at locations with groundwater contamination would continue at the same rate under any of the three alternatives.

Biological and Ecological Resources

Long-term restricted access and limited planned development have benefitted biological resources at the Kirtland Air Force Base. This benefit would continue under all alternatives. Proposed activities under all the alternatives could result in a local displacement of wildlife; however, the impact would be minimal and temporary. In addition, there would be slightly increased levels of noise and activity under the Preferred Alternative.

However, the impacts from these increases are expected to be negligible to biological and ecological resources. There are no endangered and threatened species issues at SNL/NM.

Cultural Resources

Cultural resources in the Region of Influence have benefitted from restricted access, compliance with applicable regulations, and established procedures for the protection and conservation of cultural resources. This benefit would continue under all alternatives. There are no known cultural resource sites at DOE-administered land at the Kirtland Air Force Base. For all three alternatives, there would continue to be a potential for impacts to prehistoric and historic archaeological resources located on Kirtland Air Force Base lands administered by other agencies and used by DOE. These impacts would derive from explosive testing debris and shrapnel produced as a result of outdoor explosions, off-road vehicle traffic, and unintended fires and fire suppression. However, the potential for impacts due to these factors would be minimal under all three alternatives.

DOE is involved in ongoing consultation with 15 Native American tribes to discuss Traditional Cultural Properties at SNL/NM. To date, no Traditional Cultural Properties have been specifically identified at SNL/NM; however, several tribes have requested that they be consulted under the Native American Graves Protection and Repatriation Act if human remains are discovered within the Region of Influence. These consultations will continue. If specific Traditional Cultural Properties are identified, any impacts of SNL/NM activities on the Traditional Cultural Properties and any impacts of restricting access to the Traditional Cultural Properties would be determined in consultation with Native American tribes, and further NEPA review would be conducted, if appropriate.

Air Quality

Chemical emissions would be highest for the Preferred Alternative, although emissions under all alternatives would be below levels that would adversely affect public health. Air concentrations of criteria and other chemical pollutants would be within regulatory standards and human health guidelines. The impact from emissions of criteria and other pollutants for the No Action and the Preferred alternatives would be essentially the same.

The major source of criteria pollutants (other than mobile sources) would be the steam plant, which supplies steam to the facilities for heating. No increase in laboratory-wide floor space is anticipated under the Preferred Alternative because any added floor space is expected to be offset by facilities taken out of service; therefore, no increase in steam production would be required. Among the three alternatives, the Reduced Operations Alternative would require the least steam, resulting in the lowest emissions from the steam plant.

Air quality impacts from mobile sources vary slightly among the alternatives but are not considered adverse. The analysis indicates carbon monoxide emissions from mobile sources as a percentage of the Bernalillo County total would be 4.6 percent (No Action Alternative), 5.1 percent (Preferred Alternative), and 4.5 percent (Reduced Operations Alternative).

The radiological dose impacts due to the annual air emissions from SNL/NM facilities during normal operations under each of the alternatives would be lower than the National Emissions Standards for Hazardous Air Pollutants limit of 10 millirem per year to a maximally exposed individual. The calculated radiological dose to a maximally exposed individual would be 0.15 millirem per year under the No Action Alternative; 0.51 millirem per year under the Preferred Alternative; and 0.02 millirem per year under the Reduced Operations Alternative.

The calculated collective dose to the population within a 50-mile radius of SNL/NM for each alternative from the annual radiological air emissions due to the SNL/NM operations would be 5.0 person-rem per year under the No Action Alternative, 15.8 person-rem per year under the Preferred Alternative, and 0.80 person-rem per year under the Reduced Operations Alternative.

Human Health

The composite cancer health risk estimates and the cancer health risk estimates for specific receptor locations are below levels that regulators consider protective of public health. The small amounts of chemical carcinogens and radiation released from SNL/NM facilities would increase the maximally exposed individual lifetime risk of cancer (assuming 30 years of exposure) by less than 1 chance in 434,000 under the No Action Alternative and by less than a possible 1 chance in 126,000 under the Preferred Alternative. Noncancer health effects would not be expected under any alternative based on hazard index values of less than 1. No additional nonfatal cancers, genetic disorders, or latent cancer fatalities would be expected in the population living within a 50-mile radius of SNL/NM. The lifetime risk to the population in the Region of Influence would be 0.012, 0.075, and 0.24 latent cancer fatalities for the Reduced, No Action, and Preferred alternatives, respectively. Thus, no adverse health effects would be expected from any of the three alternatives for SNL/NM.

Transportation

The SNL/NM material and waste truck traffic offsite would be projected to increase from 14.5 shipments per day (1996) to 24.6 and 34.4 shipments per day under the No Action and Preferred alternatives, respectively. However, the SNL/NM truck traffic would comprise less than 0.03 percent of the total traffic, including all types of vehicles entering and leaving the Albuquerque area by way of interstate highways. Therefore, the impact under any alternative would be minimal. The total local traffic on roadways from SNL/NM activities could increase by a maximum of 1.8 percent under the No Action Alternative and 3.6 percent overall under the Preferred Alternative as compared to 1996.

The overall maximum lifetime fatalities from SNL/NM annual shipments of all types of materials and wastes due to SNL/NM operations were estimated to be 1.7 fatalities under the Preferred Alternative. Of these estimates, 1.2 fatalities would be due to traffic accidents; 0.33 fatalities would be due to incident-free transport of radiological materials and wastes; and 0.06 fatalities would be due to air pollution from truck emissions.

The maximum latent cancer fatalities in the population within a 50-mile radius of SNL/NM from the annual transport of radiological materials and wastes were estimated, based on a population dose of 4.9 person-rem, to be 0.0025.

Waste Generation

Operations of low-level waste and low-level mixed waste are expected to increase by a maximum of about 200 and 70 percent, respectively, under the Preferred Alternative, as compared to 1996. One new operation, the Medical Isotopes Production Project, would be the major contributor to the low-level waste increase. Approximate total radioactive waste generation would be up to 180 cubic meters under the No Action Alternative, up to 290 cubic meters under the Preferred Alternative, and 110 cubic meters under the Reduced Operations Alternative. Total chemical waste generation would be up to approximately 380,000 kilograms under the No Action Alternative, up to

approximately 440,000 kilograms under the Preferred Alternative, and up to approximately 310,000 kilograms under the Reduced Operations Alternative. Capacity currently exists to manage the waste generated from all operations at the Preferred Alternative level.

Noise and Vibration

Under the No Action Alternative, SNL/NM would operate at current planned levels, which include background noise levels and short-term noise impacts from SNL/NM test activities. By 2008, impulse noise-producing test activities would increase an estimated 35 percent over the 1996 level of 1,059 events. The projected frequency of impulse noise events for the Reduced OperationsAlternative would be 65 percent less than the 1996 levels.

Projections under the Preferred Alternative indicate a 250 percent increase in the number of impulse noise tests over 1996 levels.

Only a small fraction of these tests would be loud enough to be heard or felt beyond the site boundary. The vast majority of tests would be below background noise levels for locations beyond the Kirtland Air Force Base boundary and would be unnoticed in neighborhoods bounding the site. Ground vibrations would remain confined to the immediate test area.

Socioeconomics

Direct SNL/NM employment projections range from about 7,400 (Reduced Operations Alternative) to about 8,400 (Preferred Alternative), in comparison to about 7,600 full-time SNL/NM employees in the 1996 base year. These employment changes would change regional population, employment, personal income, and other socioeconomic measures in the region by less than 1 percent. Accordingly, no adverse socioeconomic impacts would be expected to result from any of the alternatives.

Environmental Justice

Based on the analyses of all resource areas and demographic information on low-income and minority population, DOE does not expect any environmental justice-related impacts from the continued operation of SNL/NM under any of the alternatives.

Accidents

The accident scenarios discussed are those that bound, *i.e.,* provide an upper limit to potential impacts or risks, the accidents at SNL/NM. At SNL/NM, accidents could occur that would affect workers and the public. Potential accidents with the largest impacts would involve radioactive materials in TA–V facilities and hazardous chemicals in TA–I facilities. In most instances, involved workers (those individuals located in the immediate vicinity of an accident) would incur the largest risk of serious injury or fatality, because, for most accidents, the magnitude of the damaging effects are highest at the point of the accident and diminish with increasing distance. This result would apply, for example, to releases of radioactive and chemical materials, explosions, fires, airplane crashes, earthquakes, and similar events. In some situations, however, the mitigating effects of structural barriers, personal protection equipment, and engineered safety features could offer greater protection for close-in workers than for others in the general vicinity of the accident.

In TA–I, under all three alternatives, there could be numerous situations in laboratory rooms where workers could be accidentally exposed to small amounts of potentially harmful chemicals. The potential also exists in TA–I for a catastrophic accident, such as an airplane crash into a facility or an earthquake, in which multiple potentially harmful chemicals could be released and expose onsite individuals to harmful or fatal chemical concentrations. Large quantities of hydrogen stored in outside areas of TA–I could also explode as a result of a catastrophic event and cause serious injury or fatality to involved workers and other nearby onsite individuals. The probability of a catastrophic chemical or explosive accident with serious consequences is low (less than once in a thousand years). Should such an accident occur, emergency procedures, mitigating features, and administrative controls would minimize its adverse impacts.

Under the Preferred Alternative, the Microelectronics Development Laboratory and the Compound Semiconductor Research Laboratory would remain in their present configuration. In the event of a catastrophic accident, such as an airplane crash into either facility (but not both), the dominant chemical release would be as much as 106 pounds of chlorine from the Microelectronics Development Laboratory or as much as 65 pounds of arsine from the Compound Semiconductor Research Laboratory. If an accident that causes chemical releases were to occur, about 141 persons in the vicinity of the Microelectronics Development Laboratory or 409 persons in the vicinity of the Compound Semiconductor Research Laboratory could be exposed to concentrations greater than Emergency Response Planning Guideline (ERPG) Level 2. The ERPG–2 level is the maximum airborne concentration below which individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects that could impair their ability to take protective action. In the event of an earthquake, simultaneous release of chemicals is possible, and as many as 423 persons could be exposed in TA–I to concentrations greater than ERPG–2 levels.

The potential for accidents would exist in TA–V that would cause the release of radioactive materials, causing injury to workers, onsite individuals, and the public. For example, if an earthquake occurred, the impacts would range from a 1 in 33 increase in probability of a latent cancer fatality for a noninvolved worker on the site to 1 in 120,000 for a maximally exposed member of the public. For the entire population residing within 50 miles of SNL/NM, one or two additional latent cancer fatalities would be expected. Involved workers, as in the case of chemical accidents, would incur the largest risk of injury or fatality in the event of almost any accident because of their close proximity to the hazardous conditions.

Comments on the Final Site-Wide Environmental Impact Statement

DOE distributed approximately 500 copies of the Final Site-Wide EIS to appropriate Congressional members and committees, the State of New Mexico, various American Indian Tribal governments and organizations, local governments, other Federal agencies, and other interested stakeholders. DOE did not receive any comments on the Final Site-Wide EIS.

Other Decision Factors

As directed by the President and Congress, DOE has a comprehensive stewardship program which is maintaining the safety, security and reliability of the country's nuclear weapons stockpile. In addition, DOE has national security, energy resources, environmental quality, and science and technology mission lines, which it supports at a number of facilities across the United States. DOE directs and funds SNL/NM activities in support of its programs and missions. In turn, SNL/NM's facilities and operations are designed to meet the requirements of the programs, projects, and activities assigned to the Laboratory.

DOE needs to continue to meet its responsibilities for national security, energy resources, environmental quality, and science and technology at SNL/NM. DOE needs to continue to fulfill its responsibilities as mandated by statute, Presidential Decision Directive, and Congressional authorization and appropriation, while meeting this need in a manner that protects human health and the environment.

As noted in the Site-Wide EIS, SNL/NM houses unique facilities and expertise that have been developed over the past 50 years. These capabilities have well served national security and other national needs in the past. It is expected that, for the foreseeable future, the U.S. will maintain a nuclear weapons stockpile and require advanced science and manufacturing capabilities to address issues of national importance for the maintenance of that stockpile and for other purposes, including assuring the safety and reliability of that stockpile. The unique facilities and expertise at SNL/NM are needed to assist in finding solutions to these issues. These factors were also considered (in addition to the human health and environmental impact information discussed above) in reaching this Record of Decision.

Decision

DOE has decided to expand the scope and levels of its operations at SNL/NM. DOE is implementing the Preferred Alternative, that is, Alternative 2, Expanded Operations (exclusive of the Microsystems and Engineering Sciences Applications Complex). This alternative reflects a broad expansion of science and technology research and applications of this research to a variety of issues of national importance. This alternative also includes the continued maintenance of existing and expanded capabilities, and continued support and infrastructure activities. The following discussion describes the major actions to be taken, with an emphasis on those areas that have had the most extensive programmatic or public interest.

The decisions in this Record of Decision will be reflected in DOE budget requests and management practices, consistent with mission needs. However, implementation of these decisions depends on Congressional funding levels.

Selected Facilities in Technical Areas I and II

The Neutron Generator Facility will continue to fabricate neutron generators and neutron tubes. Support activities will include a wide variety of manufacturing, testing, and product development techniques and processes. The Neutron Generator Facility will increase manufacturing to approximately 2,000 neutron generators per year and associated neutron and switch tubes. An addition to an existing building will be constructed to meet increased production needs. Also, Building 870 will undergo extensive renovations.

The Microelectronic Development Laboratory will continue to conduct research and development activities on microelectronic devices for nuclear weapons. A broad range of microtechnology development and engineering activities, including integrated circuit and wafer production will continue. The Microelectronic Development Laboratory will be expanded to operate in support of research and development and production of silicon-based microelectronic devices; it will produce up to 7,500 wafers per year. DOE anticipates that new technologies and manufacturing processes will be required to meet expanded activities. There will be no construction of new facilities to meet this expanded wafer production, and the Compound Semiconductor Research Laboratory (Building 893) will remain in operation in its present location. This Record of Decision only extends to the existing Microelectronic Development Laboratory, without addition of the Microsystems and Engineering Sciences Applications Complex. As discussed in the Alternatives section of this Record of Decision, DOE is currently preparing an Environmental Assessment for the proposed construction and operation of the Microsystems and Engineering Sciences Applications Complex.

Advanced manufacturing techniques will continue to be developed and applied at the Advanced Manufacturing Processes Laboratory. These activities include hardware manufacturing, emergency and prototype manufacturing, development of manufacturing processes, and design and fabrication of production equipment. Operations at the Advanced Manufacturing Processes Laboratory will increase up to a maximum of 347,000 hours per year.

Research on materials and advanced components will continue at the Integrated Materials Research Laboratory. These activities will include basic research in chemistry, physics, and energy technologies. Operations at the Integrated Materials Research Laboratory will continue at its current capacity of approximately 395,000 hours per year.

The Explosive Components Facility will continue to support the work performed at the Neutron Generator Facility and the research and development performed on a variety of energetic components. Activities include research, testing, development, and quality control activities for neutron generators, explosives, chemicals, and batteries. Operations at the Explosive Components Facility will be expanded to complete up to 500 neutron generator tests, 900 explosive tests, 1,250 chemical analyses, and 100 battery tests annually.

Physical Testing and Simulation Facilities

Ballistic studies and solid-fuel rocket motor tests will continue at the Terminal Ballistics Complex. Testing capabilities will include research in areas of armor penetration, vulnerability, acceleration, flight dynamics, and accuracy. Projectile impact tests will include all calibers of projectiles. The operating level at the Terminal Ballistics Complex will be increased up to a maximum of 350 projectile impact tests and 100 propellant tests per year.

Tests designed for the validation of analytical modeling and weapons system certification will continue at the Drop/Impact Complex. Test activities will focus on water and underwater tests, design verification, and performance assessments. The Drop/Impact Complex tests will be expanded up to a maximum of 50 drop tests, 20 water impact tests, 5 submersion tests, and 10 underwater blast tests per year.

Tests that simulate high-speed impacts of weapon shapes, substructures, and components to verify design integrity, performance, and fusing functions will continue at the Sled Track Complex. These capabilities will include testing of parachute systems, transportation equipment, and reactor safety. Operating levels at the Sled Track Complex will be increased up to a maximum of 80 rocket sled tests, 239 explosive tests, 24 rocket launches, and 150 free-flight launches per year.

The Centrifuge Complex will continue to test objects weighing several tons at over 100 times the force of gravity. The number of tests for the Centrifuge Complex will increase up to a maximum of 120 centrifuge tests and 100 impact tests per year.

Accelerator Facilities

The SATURN accelerator will continue to produce X-rays to simulate the radiation effect of nuclear bursts on electronic and material components. Tests will include satellite systems,

weapons materials and components, and reentry vehicle and missile subsystems. The accelerator output for SATURN will increase up to a maximum of 500 shots annually.

The High-Energy Radiation Megavolt Electron Source III will continue to provide gamma ray effects testing capabilities. Tests will include electronic components and weapon systems and high-fidelity simulation over large areas in near nuclear-explosion radiation environments. The High-Energy Radiation Megavolt Electron Source III operations will increase up to a maximum number of 1,450 shots per year.

The Sandia Accelerator and Beam Research Experiment will continue to provide X-ray and gamma ray effects testing capabilities. Capabilities will include testing of pulsed-power technologies, fusion systems, weapons systems, computer science, flight dynamics, satellite systems, and robotics. Testing at the Sandia Accelerator and Beam Research Experiment will increase up to a maximum of 400 shots per year.

The Short-Pulse High Intensity Nanosecond X-Radiator will continue to produce high-voltage accelerations to measure X-ray-induced currents in integrated circuits and detect response in materials. Testing will include activities in radiation measurements for a variety of weapons components. Operations at the Short-Pulse High Intensity Nanosecond X-Radiator will increase up to a maximum of 6,000 shots per year.

The Repetitive High Energy Pulsed Power I will continue the development of pulsed-power technology, including high-power energy tests. Activities will include basic scientific research, development, and testing. The Repetitive High Energy Pulsed Power I operations will increase to support up to a maximum of 10,000 tests per year in either the single or repetitive pulse modes.

The Repetitive High Energy Pulsed Power II will continue to develop radiation processing applications using powerful electron or X-ray beams. Activities will include testing of high power magnetic switches and specialty transmission lines. The Repetitive High Energy Pulsed Power II capacity will be expanded up to a maximum of 20 tests per week for 40 weeks per year (800 tests).

The Z-Machine will continue to produce extremely short and powerful pulses at various targets to simulate special atmospheric conditions and fusion reaction conditions. The Z-Machine capability will be expanded up to a maximum of 350 firings per year. Approximately 78 percent could involve nuclear materials.

The Tera-Electron Volt Energy Superconductor Linear Accelerator will continue to test plasma opening switches for pulsed-power drivers. Other activities include basic research in science, material development, and material testing. The operating levels at the Tera-Electron Volt Energy Superconductor Linear Accelerator will be increased up to a maximum of 1,300 shots per year.

The Advanced Pulsed Power Research Module will continue to evaluate the performance and reliability of components including next-generation accelerators. Activities will include research and development in pulsed-power technologies such as power storage, high-voltage switching, and power flow. The Advanced Pulsed Power Research Module operations will increase up to a maximum of 2,000 shots per year.

The Radiographic Integrated Test Stand accelerator will continue to develop and demonstrate capabilities for future accelerator facility design. Capabilities will focus on demonstrating inductive voltage technology. The Radiographic Integrated Test Stand will increase operations up to a maximum of 800 tests per year.

Reactor Facilities

The New Gamma Irradiation Facility will perform a wide variety of gamma irradiation experiments under both dry and water-pool conditions. Capabilities will include studies in thermal and radiation effects, weapons component degradation, nuclear reactor material and components, and other nonweapon applications. The New Gamma Irradiation Facility will increase operations to irradiate test packages for a maximum of up to 24,000 test hours per year.

The Gamma Irradiation Facility will supplement the capabilities of the New Gamma Irradiation Facility. The Gamma Irradiation Facility will continue to perform gamma irradiation experiments, and its operations will be expanded to complete tests in two available cells. Approximately 8,000 test hours will be performed.

The Sandia Pulsed Reactor will continue to provide multiple fast-burst reactor, near-fusion spectrum radiation environments. Testing activities will include a wide variety of technologies that support both defense and nondefense projects. Modifications will be completed to enhance and expand current capabilities. Operating levels at the Sandia Pulsed Reactor will increase up to a maximum of 200 tests per year.

DOE considered two possible configurations for use of a pulsed-power reactor, the existing Annular Core Research Reactor reconfigured for Defense Programs use, and a possible second reactor referred to as the Annular Core Pulse Reactor II. However, a second reactor is not ripe for decision at this time, and if this additional reactor facility is proposed in the future, DOE will prepare a separate project-specific NEPA review.

The existing Annular Core Research Reactor can be operated in two ways: to produce medical isotopes or to support Defense Programs activities. Under the Annular Core Research Reactor Defense Programs configuration, the reactor will be reconfigured to pulse-mode operation to conduct a short-term test series (*i.e.*, up to about 18 months) related to the certification of some weapons components. Once the short-term testing is completed, the Annular Core Research Reactor will be converted back to medical isotope production.

Under the medical isotopes production configuration, the Annular Core Research Reactor will produce medical and research radioactive isotopes. Under the medical isotopes production configuration, the Annular Core Research Reactor will be operated for 24 hours per day, 7 days per week, at a maximum power level of 4 Megawatt (approximately 35,000 Megawatt-hours per year) to meet the entire U.S. demand for molybdenum-99 and other isotopes such as iodine-131, xenon-133, and iodine-125. This would require the irradiation of about 25 highly enriched uranium targets per week (1,300 per year).

The Hot Cell Facility will primarily support medical isotopes, including isotope extraction, isotope production purification, product packaging, and quality control. Support to Defense Programs activities will be provided as necessary for its short-term testing. The Hot Cell Facility will continuously process 100 percent of the U.S. demand for molybdenum-99 and other isotopes such as iodine-131, xenon-133, and iodine-125. This will require the processing of about 25 irradiated, highly enriched uranium targets per week (1,300 per year).

Outdoor Test Facilities

The Aerial Cable Facility will conduct a variety of impact tests involving weapon systems and aircraft components. Capabilities include free-fall drop, rocket pull-down, and captive flight tests, data recording, and simulation technologies. The Aerial

Cable Facility will be expanded to include drop tests of joint test assemblies that contain depleted uranium, enriched uranium, and insensitive high explosives. These test articles will contain up to a maximum of 45 pounds of depleted uranium, 120 pounds of enriched uranium, and 104 pounds of insensitive high explosives (plastic-bonded explosive [PBX]–9502 or press-moldable explosive [LX]–17). The number of tests using this kind of test article (containing depleted uranium, enriched uranium, and insensitive high explosives) will not exceed five per year. The total number of drop/pull-down tests will increase up to a maximum of 100 experiments per year. Aerial target tests will increase up to a maximum of 30 tests per year. Up to two series of scoring system tests will be conducted each year.

The Lurance Canyon Burn Site will continue to test, certify, and validate material and system tolerances. Test objects will be burned for short periods of time under controlled conditions. Up to a maximum number of approximately 55 certification tests per year will be conducted at the Lurance Canyon Burn Site. Model validation tests and user tests will increase up to a maximum of 100 and 50 per year, respectively.

The Containment Technology Test Facility—West will continue to conduct a series of successive events leading up to ultimate failure of test vessels. The Containment Technology Test Facility—West will perform up to two survivability tests per year.

The Explosives Applications Laboratory will continue to design, assemble, and test explosive materials, components, and equipment. Work will involve arming, fusing, and firing of explosives and testing of components. The number of explosive tests at the Explosives Applications Laboratory will increase up to a maximum of 360 tests per year.

The Thunder Range Complex will continue its activities ranging from disassembly and evaluation to calibration and verification testing of special nuclear and nonnuclear systems. Examination and testing of objects will involve cleaning, physical examination, disassembly, measurement, sampling, photography, and data collection. Operations at the Thunder Range Complex will increase up to a maximum of 10 test series per year in 2008. Equipment disassembly would increase up to 144 days per year.

Infrastructure Facilities

The Steam Plant will continue to produce and distribute steam to SNL/NM and Kirtland Air Force Base facilities. Steam production will remain at approximately 550 million pounds per year. The Steam Plant will require upgrades of several boilers, steam distributors, and natural gas supply systems. The boiler upgrade could include a technology change to cogeneration units.

The Hazardous Waste Management Facility will continue to handle, package, store, and ship hazardous, toxic, and nonhazardous chemical wastes. The Hazardous Waste Management Facility will continue to prepare wastes for offsite transportation for recycling, treatment, or disposal at licensed facilities. Operations at the Hazardous Waste Management Facility will increase from one to three shifts. Quantities of Resource Conservation and Recovery Act hazardous waste managed will be about 92,000 kilograms each year (well within the permitted capacity).

The Radioactive Mixed Waste Management Facility will continue to serve as a centralized facility for receipt, characterization, compaction, treatment, repackaging, certification, and storage of low-level waste, transuranic waste, low-level mixed waste, and mixed transuranic waste. The Radioactive Mixed Waste Management Facility will continue to prepare wastes for offsite treatment and disposal at licensed facilities. Operations at the Radioactive Mixed Waste Management Facility will be increased from one to two shifts. Annual quantities of radioactive waste managed (including newly generated and legacy waste) will be about 19,600 cubic feet for low-level waste. Annually, for low-level mixed waste, transuranic waste, and mixed transuranic waste, the quantities to be generated and managed are approximately as follows: 260 cubic feet low-level mixed waste generated, and 8,800 cubic feet managed; 26 cubic feet transuranic generated, and 350 cubic feet managed; 37 cubic feet mixed transuranic waste generated and managed. The infrastructure processing rate is 2.7 million pounds per year. A new prefabricated waste storage building would be constructed to replace an existing building to improve flexibility and operational efficiencies.

The Thermal Treatment Facility will continue to burn small quantities of explosive materials and explosives-contaminated water. The quantities of wastes treated at the Thermal Treatment Facility will increase. Approximately 1,200 pounds of waste per year would be thermally treated. This rate assumes that 60 burns are performed at 20 pounds of waste per burn. This rate will be implemented only if the regulatory authority approves the changes required to the Resource Conservation and Recovery Act permit for the Thermal Treatment Facility.

Mitigation Measures

The Site-Wide EIS included a discussion of existing programs, plans, and controls for operations at SNL/NM, including operating within applicable regulations, DOE Orders, contractual requirements and approved policies and procedures. No new mitigation measures were identified. It is unnecessary to prepare a Mitigation Action Plan under 10 CFR 1021.331.

Conclusion

DOE has considered environmental impacts, stakeholder concerns, and national policy in its decisions regarding the management and use of SNL/NM. The analysis contained in the Site-Wide EIS is both programmatic and site specific in detail. It is programmatic from the perspective of broad, multi-use facility management and site-specific in that it analyzes detailed project and program activity. The impacts identified in the Site-Wide EIS were based on conservative estimates and assumptions. In this regard, the analyses bound the impacts of the alternatives evaluated in the Site-Wide EIS.

DOE has decided to implement the Expanded Operations Alternative without the Microsystems and Engineering Sciences Applications Complex, i.e., the Preferred Alternative in the Final Site-Wide EIS. Thus, DOE and interagency programs and activities could increase to the highest reasonable activity levels, subject to mission need and Congressional funding and as set forth in the Site-Wide EIS, that could be supported by current facilities and their potential expansion and construction of new facilities for future actions identified in the Site-Wide EIS.

In accordance with the provisions of NEPA, its implementing procedures and regulations, and DOE's NEPA regulations, I have considered the information contained within the Site-Wide EIS, public comments received in response to the Site-Wide EIS, and other factors. Being fully apprised of the environmental consequences of the alternatives and other decision factors described above, I have decided to expand, as the need arises, the use of SNL/NM and its resources as described. This will enhance DOE's ability to meet its primary national security mission responsibility and create an environment that fosters technological innovation in both the public and private sectors.

Issued at Washington, DC, December 6, 1999.

Thomas F. Gioconda,

Brigadier General, USAF, Acting Assistant Secretary for Defense Programs.

[FR Doc. 99–32247 Filed 12–14–99; 8:45 am]

BILLING CODE 6450–01–P

DEPARTMENT OF ENERGY

Office of Science Financial Assistance Program Notice 00–06; Energy Biosciences

AGENCY: U.S. Department of Energy.

ACTION: Notice inviting grant applications.

SUMMARY: The Office of Basic Energy Sciences of the Office of Science (SC), U.S. Department of Energy (DOE) invites preapplications from potential applicants for research funding in the Energy Biosciences program area. The intent in asking for a preapplication is to save the time and effort of applicants in preparing and submitting a formal project application that may be inappropriate for the program. The preapplication should consist of a two to three page concept paper on the research contemplated for an application to the Energy Biosciences program. The concept paper should focus on the scientific objectives and significance of the planned research, and include an outline of the approaches planned, and any other information relating to the planned research. No budget information or biographical data need be included; nor is an institutional endorsement necessary. The preapplication gives us the opportunity to advise potential applicants on the suitability of their research ideas to the mission of the DOE Energy Biosciences program. A response indicating the appropriateness of submitting a formal application will be sent from the Division of Energy Biosciences office in time to allow for an adequate preparation period for a formal application.

DATES: For timely consideration, all preapplications should be received by March 8, 2000. However, earlier submissions will be gladly accepted.

A response to timely preapplications will be communicated to the applicant by April 12, 2000. The deadline for receipt of formal applications is June 13, 2000.

ADDRESSES: Preapplications referencing Program Notice 00–06 should be forwarded to: U.S. Department of Energy, Office of Basic Energy Sciences, SC–17, Division of Energy Biosciences, 19901 Germantown Road, Germantown, MD 20874–1290, Attn: Program Notice 00–06. Fax submissions are acceptable (Fax Number (301) 903–1003).

Formal applications, referencing Program Notice 00–06, must be sent to: U.S. Department of Energy, Office of Science, Grants and Contracts Division, SC–64, 19901 Germantown Road, Germantown, MD 20874–1290, ATTN: Program Notice 00–06. This address must also be used when submitting applications by U.S. Postal Service Express Mail or any commercial overnight delivery service, or when hand-carried by the applicant.

FOR FURTHER INFORMATION CONTACT: Ms. Pat Snyder, Division of Energy Biosciences, Office of Basic Energy Sciences, SC–17, 19901 Germantown Road, Germantown, MD 20874–1290, telephone (301) 903–2873; E-mail pat.snyder@science.doe.gov.

SUPPLEMENTARY INFORMATION: Potential applicants should submit a brief preapplication which consists of two to three pages of narrative describing research objectives. These will be reviewed relative to the scope and the research needs of the Energy Biosciences program. The Energy Biosciences program has the mission of generating fundamental biological information about plants and non-medical related microorganisms that can provide support for future energy related biotechnologies. The objective is to pursue basic biochemical, genetic and physiological investigations that may contribute towards providing alternate fuels, petroleum replacement products, energy conservation measures as well as other technologies such as phytoremediation related to DOE programs. Areas of interest include bioenergetic systems, including photosynthesis; control of plant growth and development, including metabolic, genetic, and hormonal and ambient factor regulation, metabolic diversity, ion uptake, transport and accumulation, stress physiology and adaptation; genetic transmission and expression; plant-microbial interactions, plant cell wall structure and function; lignocellulose degradative mechanisms; mechanisms of fermentations, genetics of neglected microorganisms, energetics and membrane phenomena; thermophily (molecular basis of high temperature tolerance); microbial interactions; and one-carbon metabolism, which is the basis of biotransformations such as methanogenesis. The objective is to discern and understand basic mechanisms and principles.

Funds are expected to be available for new grant awards in FY 2001. The magnitude of these funds available and the number of awards which can be made will depend on the budget process. The awards made during FY 1999 averaged close to $105,000 per year, mostly for a three-year duration. The principal purpose in using preapplications at this time is to reduce the expenditure of time and effort of all parties.

The research description of the formal application must be 10 pages or less, exclusive of figure illustrations, and must contain an abstract or summary of the proposed research (to include the hypotheses being tested and the proposed experimental design). Attachments include curriculum vitae, a listing of all current and pending federal support, and letters of intent when collaborations are part of the proposed research.

Information about development and submission of applications, eligibility, limitations, evaluations and selection processes, and other policies and procedures may be found in the 10 CFR part 605 and the Application Guide for the Office of Science Financial Assistance Program. Electronic access to SC's Financial Assistance Guide is possible via the Internet using the following Web Site address: http://www.sc.doe.gov/production/grants/grants.html. DOE is under no obligation to pay for any costs associated with the preparation or submission of applications if an award is not made.

The Catalog of Federal Domestic Assistance number for this program is 81.049, and the solicitation control number is ERFAP 10 CFR part 605.

Issued in Washington, DC on December 6, 1999.

John Rodney Clark,

Associate Director of Science for Resource Management.

[FR Doc. 99–32514 Filed 12–14–99; 8:45 am]

BILLING CODE 6450–01–U

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. CP00–34–000]

Algonquin Gas Transmission Company; Notice of Application

December 9, 1999.

Take notice that on November 29, 1999, Algonquin Gas Transmission Company (Algonquin), 5400 Westheimer Court, Houston, Texas 77056–5310, filed in Docket No. CP00–34–000 an application pursuant to Sections 7(c) and 7(b) of the Natural Gas