

NSS Statement of Philosophy (Approved & adopted 12-4-99)

I. NSS Vision -- What is the Ultimate Goal of NSS?

"People living and working in thriving communities beyond the Earth."

III. NSS Mission -- What is the Purpose of NSS?

"To promote social, economic, technological, and political change, to advance the day when humans will live and work in space."

IV. NSS Rationale -- Why Our Mission Is Important

A. Survival Of Human Species and Earth's Biosphere

It is the nature of every form of life, whether animal or plant, to strive to survive.

1. Survival of the Human Species

To ensure the survival of the human species, which is encountering increased natural, man-made, and extraterrestrial threats, including disease, resource depletion, pollution, urban violence, terrorism, nuclear war, asteroids, and comets.

2. Survival of Earth's Biosphere

To ensure the survival of other animal and plant life on Earth, much of which is suffering increased loss of population and quality habitat due to the growing presence of humans on planet Earth, via expansion, pollution, deforestation, fishing, farming, mining, and promotion of certain species of animals and plants.

Space technology provides both means to monitor threats to life on Earth and ways to help curtail them. Space industrialization and settlement provides safety valves to relieve the pressures that cause Earth-bound threats and provides escape routes in case of catastrophic man-made or extraterrestrial threats. Humanity has inherited the stewardship of the planet Earth, and will need the vast resources of outer space to reverse the damage it has caused to the Earth's biosphere, and to ultimately enhance all life on Earth.

B. Growth -- Unlimited Room for Expansion

It is the nature of every form of life, whether animal or plant, to grow and multiply.

1. New Habitats for Life

To provide the human species, as well as all other animal and plant life on Earth, with room to grow and multiply. Earth has a finite supply of land, air, and water, for which humans, animals, and plants must compete. On Earth, only humanity has or can acquire and utilize the knowledge to create new habitats on other worlds or in space from raw materials from moons and asteroids.

2. New Frontiers for Humanity

To provide the human species with a new "frontier" for exploration and adventure, and to thought and expression, culture and art, and modes of government. The opening of "the New World" to western civilization brought about an unprecedented 500-year period of growth and

experimentation in science, technology, literature, music, art, recreation, and government (including the development and gradual acceptance of democracy). The presence of a frontier led to the development of the "open society" founded on the principles of individual rights and freedoms. Many of these rights and freedoms are being placed under increasingly stringent limitations as human population grows and humanity moves towards a "closed society", where eventually everyone eats the same, speaks the same, and dresses the same. "Cultures that do not explore, die!"

C. Prosperity Unlimited Resources

It is the nature of the human species to strive to improve the quality of its many lives and to provide a better future for its children.

1. Improved Standards of Living

To provide humanity with the resources it needs to improve the quality of life for all humans on the planet Earth. The majority of humanity lives at an economic level that is far below that of the Western democracies. Outer space holds virtually limitless amounts of energy and raw materials, which can be harvested for use both on Earth and in space. Quality of life can be improved directly by utilization of these resources and also indirectly by moving hazardous and polluting industries and/or their waste products off planet Earth.

2. Economic Opportunity

To provide every human individual with the opportunity to improve the well being of himself or herself, and his or her family. Vast new resources must be developed if all persons are to be given economic opportunities for themselves and their children even marginally equal to what many would consider a minimally tolerable standard of living.

3. Technological Development

To provide remote locations for the development, testing, and "perfection" of promising, but potentially hazardous technologies, such as biological experimentation; nuclear, fusion, chemical and antimatter power generation; and space propulsion. Such developmental facilities could be placed either in space or on other worlds far from both space settlements and unrelated facilities.

D. Curiosity The Quest for Knowledge

It is the nature of the human species to learn more about its origins, its past, its fellow life forms, its environment, its limitations, and its possibilities for the future. Earth is but a tiny container of knowledge compared to the entire incredibly vast universe. "We are part of the universe, through our eyes, ears and minds, the universe may know itself."

V. NSS Principles -- What Does NSS Stand For?

These are the guiding principles of the National Space Society by which we will conduct our Mission in pursuit of our Vision. (In priority order).

A. Human Rights

NSS shall promote the principle of fundamental rights of every human

being.

B. Ethics

NSS shall observe, practice, and promote ethical conduct.

C. Settlement

D. NSS shall actively pursue and promote human settlement beyond Earth. Scientific inquiry and exploration are important precursors to settlement.

E. Pragmatism

Within the bounds of these Principles, NSS shall promote and support any and all methods and practices that support achievement of our Vision. "In support of its Vision, NSS stands for the active pursuit and promotion of human settlement beyond the Earth, with scientific inquiry and exploration as important precursors. NSS advocates any and all methodologies that support achievement of our Vision in an ethical manner consistent with the preservation of fundamental human rights."

VI. NSS Beliefs -- What Does NSS Support?

While we cannot say that the following are absolutely essential for spacesettlement we believe and support the following:

A. Individual Rights

NSS believes that space development and settlement will occur most efficiently, and humanity's prosperity will be best ensured, if every human being is given the freedom of thought and action.

B. Unrestricted Access to Space

NSS believes that space development and settlement will occur most efficiently, and humanity's survival and growth will be best ensured, if every human being is allowed the opportunity to travel, live, and/or work in outer space.

C. Personal Property Rights

NSS believes that space development and settlement will occur most efficiently, and humanity's survival and growth will be best ensured, if every human being is allowed the opportunity to own property in space and/or on other world

D. Free Market Economics

NSS believes that space development and settlement will occur most efficiently, and humanity's prosperity will be best ensured, if the "free market" drivers of competition and profit used.

E. Government Funding of High Risk R&D

NSS believes that space development and settlement will occur most efficiently, and humanity's prosperity will be best ensured, if national governments fund the research and development of space technologies deemed too "high risk" by their industries.

F. International Cooperation

NSS believes that space development and settlement will occur most

efficiently, and humanity's survival and prosperity will be best ensured, if nations cooperate on space research and development, and leave competition to individual companies.

G. Democratic Values

NSS believes that humanity's growth and prosperity will be best ensured if the fundamentals of democracy are applied to and incorporated by space settlements.

H. Enhancement of Earth's Ecology

NSS believes that one of the goals and benefits of space development and settlement is to restore and enhance the biosphere of the planet Earth.

I. Protection of New Environments

NSS believes that space development and settlement should be pursued in a manner that safeguards alien life forms, natural wonders, and historical monuments.

VII. Barriers to Space Settlement

These are the major targets for change (obstacles to be overcome) that the National Space Society believes must be accomplished to realize our Vision, and, therefore, constitute our Mission.

A. No Long Term Government Funding Mechanism

Especially in the United States, industry is prevented from obtaining investors for future private space transportation systems because the near-term customer, U.S. government agencies, are not allowed to make orders for space launches as airlines can for commercial aircraft. While some progress has been made with DoD's handling of the EELV program, NASA thus far has not been allowed (or encouraged) to follow such a practice for future reusable launch vehicles.

B. Lack of Incentives for Private Capital Investment

In addition to the long-term government-funding obstacle, there are few financial incentives for private investors to provide the huge sums of money required to fund the capital costs of space transportation systems and facilities. If the world governments want private industry to take over funding of space development, some form of short-term transition incentive program must be created to attract private investors.

C. Lack of Affordable Space Transportation to Space

Despite the dreams, plans, and claims of the past 30 years, launch vehicle developers have not found a way out of the launch vehicle "Catch 22" trap: (1) individual launch costs can only be greatly reduced by spreading the huge cost of launch vehicle development over a large number of flights; (2) the market to demand a large number of flights can only exist once individual launch costs are greatly reduced.

D. Lack of Sovereignty

Both the Outer Space Treaty of 1967 and the Moon Treaty of 1979 forbid nations from claiming any part of the Moon or other celestial body. Article 11, Paragraph 2 states "The moon is not subject to national appropriation by

any claim of sovereignty, by means of use or occupation, or by any other means." This has left a void of any legal system that would enable private entrepreneurs and companies to plan and execute commercial space activities on the Moon and other celestial bodies.

E. Liability Insurance Costs and Conditions

Liability insurance premiums are one of the largest cost components of an individual launch vehicle mission, averaging about ten percent of the total cost. Since the reason for this is primarily due to poor launch vehicle reliability, improving reliability should decrease insurance premiums; however, the need for such large liability coverage needs to be questioned. Most, if not all, launch accidents happen in restricted zones and yield little if any collateral damage, yet government requirements for liability insurance are based on worst-case scenarios that have not happened in the entire history of rocketry. The liability conditions specified in the Outer Space Treaty also cause problems for private launch companies launching rockets made by companies from other nations.

F. Proposed Passenger Restrictions

Government agencies currently considering establishing limits on who can and cannot go into outer space, could adversely affect future space tourism markets, if such limits are much more detailed than the general guidelines provided to the airline industry.

G. Lack of Public Interest

The general public is rapidly losing interest in space development: (1) because the pace of space development is frustratingly slow, especially when compared to the incredibly fast pace of the home computer revolution; (2) because NASA is forced by taxpayer watchdogs to portray human space activities in the most boring manner; (3) because the real and exaggerated perceived risks of outer space frightens them; and (4) because little activity, planning, and public discussion occurs regarding private trips into space.

H. Moon Treaty and "Common Heritage" Principles

The Moon Treaty, passed by the United Nations in 1979, yet ratified by only four nations (none of which were space-faring at the time) strictly forbids the private ownership of any part of the Moon or other celestial body.

Article 11; Paragraph 1 states "The moon and its natural resources are the common heritage of mankind." Article 11, Paragraph 3 states "Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person." Despite the lack of ratification, no space-faring nation has ever publicly challenged this treaty.

I. Perceived Risk of Space Activities

In addition to the real measurable risks associated with launch vehicle reliability, both the private and public sector have been led to believe that outer space itself is inherently dangerous, because of (1) the "effects of weightlessness," an artificial risk created by government space agencies' preoccupation with micro-gravity, an environment not conducive to human life; and (2) space radiation, a true hazard whose risk has been temporarily

heightened by the short-term need to make spacecraft walls thin to reduce launch weight.

J. No Closed-loop Life Support System

Having to launch everything necessary for life support for any extended period of time, long duration space travel (such as missions to Mars), and space settlements will be cost prohibitive. Budget cuts to the International Space Station program have severely delayed if not cancelled research and experimentation of components of closed-loop life support systems that are necessary to reduce the dependency of space settlements on support launched from Earth. Being able to reuse human wastes will also avoid space and planetary environmental pollution issues.

K. U.S. National Space Policy Limitations

The U.S. National Space Policy set in 1996 effectively forbids the U.S. government not only from funding any human mission beyond Earth orbit, but also from funding any research and development that might lead to future human missions beyond Earth orbit.

L. Launch Vehicle Reliability

Expendable launch vehicle reliability is averaging about 0.90 (one catastrophic failure every 10 flights); reusable launch vehicle reliability will need to average about 0.99 (one catastrophic failure every 100 flights).

Space tourism, the greatest potential market for large numbers of launch vehicle flights, cannot exist until reliability is increased by at least a factor of 100 over today's average.

M. Government Obstacles to Commercialization

Commercial space activities offer the best near-term solution to provide a market for affordable launch vehicles, yet there exists both real and perceived obstacles from many governments. In the United States NASA is repeatedly accused of not understanding the needs of private industry and therefore not correctly implementing space commercialization laws passed by Congress. The FAA and Department of Commerce have only recently begun revising and creating regulations to encourage and not hinder commercial space activities.