B. Guiding Principles

The following seven principles are recommended as a broad guide to help Federal purchasers address environmental preferability in Federal acquisitions.

Guiding Principle 1:

Consideration of environmental preferability should begin early in the acquisition process and be rooted in the ethic of pollution prevention which strives to eliminate or reduce, up front, potential risks to human health and the environment.

It has been estimated that 70 percent or more of the costs of product development, manufacture, and use are determined during the initial design stages.³ Thus, customized purchases or projects where program managers, architects, engineers, systems designers, or others have influence over the design phase afford the agencies an early opportunity to apply environmental preferability and offer a unique point of leverage from which to address environmental impacts.

Environmental preferability does not involve just substituting one "green" product for another, it also involves questioning whether a function needs to be performed, and how it can best be performed to minimize environmental impacts. For instance, in degreasing operations, the question is often posed whether an efficient cleaner using halogenated solvents is better or worse for the environment than an aqueous based cleaner. A more appropriate question may be whether the cleaning/ degreasing step can be eliminated without affecting the overall performance of the product or system. This might be accomplished for example, by consolidating cleaning/degreasing in a later stage of the manufacturing process or changing the process itself.

Guiding Principle 2:

A product or service's environmental preferability is a function of multiple attributes.

Environmental preferability is a function of many attributes (e.g., energy efficiency, impacts on air, water, and land and fragile ecosystems, etc.), not just one or two. Targeting a single environmental performance characteristic for improvement, like energy efficiency or recycled content, may be much easier, because they are more easily defined (most of the time), measured and understood. By focusing on one dimension of a product's performance, however, one might overlook other environmental impacts associated with the product that may cause equal or greater damage. Furthermore, it is possible that improvements along one dimension may result in other unintended negative environmental impacts along another dimension.

The menu of environmental performance characteristics described in Appendix B offers a preliminary list of product or service attributes that can help to identify environmentally preferable products.

Guiding Principle 3:

Environmental preferability should reflect life-cycle considerations of products and services to the extent feasible.

Ideally, "environmental preferability" of a product or service should be determined by comparing the severity of environmental damage that the product or service causes to human health and ecological health across its life-cycle with that caused by competing products—from the point of a raw materials acquisition, through product manufacturing, packaging, and transportation to use and ultimate disposal.

The term "life-cycle" is often interpreted by different people to mean very different things. To some, it connotes an exhaustive, extremely time-consuming and very expensive analysis. To other life-cycle is an abbreviated process whereby a long list of potential environmental attributes and/or impacts is narrowed to just a few which provide the basis for comparison across a particular product category. This guidance promotes the latter interpretation and encourages the use of tools which are currently available. For starters, Executive agencies are directed to EPA's document 'Federal Facility Pollution Prevention Project Analysis: A Primer for Applying Life Cycle and Total Cost Assessment Concepts.' (EPA 300-B-95-008, July 1995)

A more detailed discussion of issues related to life-cycle considerations is included in Appendix C.

Guiding Principle 4:

Environmental preferability should consider the scale (global vs. local) and temporal reversibility) aspects of the impact.

Determination of environmental preferability may require weighing the various environmental impacts among products. For example, is the impact of increased energy requirements of one product more tolerable than the water pollution associated with the use of another product? While there is no clear hierarchy as to which attributes or environmental impacts are most important, EPA has articulated, in its Science Advisory Board's 1990 report entitled Reducing Risk, a statement of policy on priority pollutants affecting environmental and public health. In this report, environmental stressors were judged to be significant based on two primary criteria-the geographic scale and degree of reversibility of the impact. Applying this principle suggests that products with pollutants whose effects are local and rapidly reversible are to be generally preferred over products that impose global and irreversible environmental damages.

A matrix of priority ecological impacts that reflects the scale and temporal consideration of impacts, and a list of priority human health impacts is included in a discussion in proposed Appendix E.

Guiding Principle 5:

Environmental preferability should be tailored to local conditions where appropriate.

The importance of environmental impacts may vary depending on geographic location and other site-specific factors, such as the variation in the availability of natural resources and pollutant effects on a particularly sensitive ecosystem. For

example, products that conserve water usage may be valued more highly by those who live in the southwest United States where water is scarce than by resident of the northeast where water is abundant. Thus, purchasers may wish to consider local environmental issues when evaluating life-cycle environmental information provided by offerors. When making purchasing decisions, these local issues would need to be carefully weighed against other global and national environmental problems, such as ozone depletion and global climate change.

Guiding Principle 6:

Environmental objectives of products or services should be a factor or subfactor in competition among vendors, when appropriate.

An approach to selecting environmentally preferable products that promotes competition on environmental grounds among vendors is better than an approach which inhibits competitive forces. The consideration of environmental factors in purchasing needs to be put in the context of other important considerations such as performance, health and safety issues and price. A crucial element in fostering competition and encouraging a market-driven approach is to have disclosure of information by vendors about their products and services. Where appropriate, Federal personnel should seek meaningful information about the environmental aspects of products in order to judge whether one product or service is more of less environmentally preferable than another. The accessibility of the information to the public (both the Federal personnel and the general public) will help ensure its accuracy and credibility (e.g., through "the power of the spotlight") as well as to stimulate continuous improvement in the environmental performance of vendors products.

Guiding Principle 7:

Agencies need to examine carefully product attribute claims.

A number of sources of information about environmental performance of products are currently available.4 Two general categories of information sources can be distinguished. The first is manufacturers who make claims about their products either on the product label or in their advertisements. Second, some third party environmental certification programs evaluate environmental aspects of products and award "seals-of-approval" or compile "report cards" of environmental information. Others verify specific claims made by manufacturers (e.g., product contains X percent recycled content). The extent to which information conveyed through claims and seals can assist Executive agency personnel in identifying environmentally preferable products may vary depending on the types of product being

 $^{^3{\}rm From}$ Office of Technology Assessment's ''Green Products by Design,'' page 3.

⁴ Information about environmental aspects of products are much more abundant in the consumer marketplace. However, as the Federal acquisition system becomes more decentralized and allows for more direct purchasing of commercially available products, the line that distinguishes the Federal marketplace from the consumer marketplace will become increasingly blurred and the information flow between the two marketplaces will increase.