Five Criteria for 802.1Xbx - Port-Based Network Access Control Amendment:
MAC Security Key Agreement protocol (MKA) extensions

1. Broad Market Potential
   a. Broad sets of applicability

   This amendment is applicable to all networks that are currently using or planning to use MACsec. The addition of this capability will further broaden the appeal and applicability of IEEE 802.1AE.

   b. Multiple vendors and numerous users

   A number of major equipment providers have indicated support for this amendment.

   c. Balanced costs (LAN versus attached stations)

   There is no imbalance of cost created by this amendment.

2. Compatibility

   This amendment fits within the framework of IEEE 802.1X-2010, and in particular within the design and specification of the MACsec Key Agreement protocol (MKA) without reducing the use and applicability of existing data elements and procedures, and without changing existing interoperability provisions. Implementations that conform to the existing standard will remain conformant.

3. Distinct Identity

   a. Substantially different from other IEEE 802 standards
IEEE 802.1X is already a recognized and established standard.

b. One unique solution per problem (not two solutions to a problem)

This project enhances IEEE 802.1X to meet emerging and additional needs, it does not duplicate existing capabilities.

c. Easy for the document reader to select the relevant specification

IEEE Std 802.1X is already an established reference for LAN security.

4. Technical Feasibility

a. Demonstrated system feasibility

The protocol extensions required for this amendment are modest within the existing context of 802.1X, and similar capabilities are routinely designed and deployed with other protocols. In particular the design of MKA is such that the simple addition of new data elements does not require redesign or reevaluation of its security properties.

b. Proven technology, reasonable testing

Technology for testing similar capabilities has been in widespread use for a number of decades.

c. Confidence in reliability

This project is expected to pose no new reliability challenges. The effects of suspending control plane operation are simply quantifiable.
d. Coexistence of 802 wireless standards specifying devices for unlicensed operation
Not applicable.

5. Economic Feasibility

a. Known cost factors, reliable data

The fractional implementation costs involved are trivial.

b. Reasonable cost for performance

Data transfer performance would not be affected by the provisions of the proposed amendment.

c. Consideration of installation costs

Deployment would occur as a control plane software upgrade with typical associated cost. Deployment would be typically arranged to coincide with other reasons for performing such an upgrade and would only represent a fraction of the associated cost.