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**Title:** Module 5: End Use Assessment Lesson 5.1: Introduction to End Use Assessment

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International Nonproliferation Export Control Program (INECP)

## ***Module 5: End Use Assessment***

### ***Lesson 5.1: Introduction to End Use Assessment***

*Technical Risk Assessment of Dual-Use Exports*



International Nonproliferation Export Control Program (INECP)

# ***Lesson 5.1: Introduction to End Use Assessment***

*Technical Risk Assessment of Dual-Use Exports*

# ***Objectives***

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- **Recognize type of information and level of detail required to effectively assess the end use of commodities or technologies**
- **Determine whether the commodity or technology is appropriate for the stated end use**
- **Determine if a stated end use has any direct or indirect proliferation concerns in WMD or delivery systems**
- **Recognize factors that could be considered red flags during an end use assessment**

# *Outline*

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- **Introductory participant activity**
- **Definitions: end use, end use statement, and end use assessment**
- **Key elements of an end use assessment**
- **Case studies**
- **Considerations for developing and organizing an end use assessment**
- **Technical resources for conducting end use assessments**
- **End use exercise**



International Nonproliferation Export Control Program (INECP)

# ***Activity 5.1.1***

## ***End Use Examples***

*Technical Risk Assessment of Dual-Use Exports*

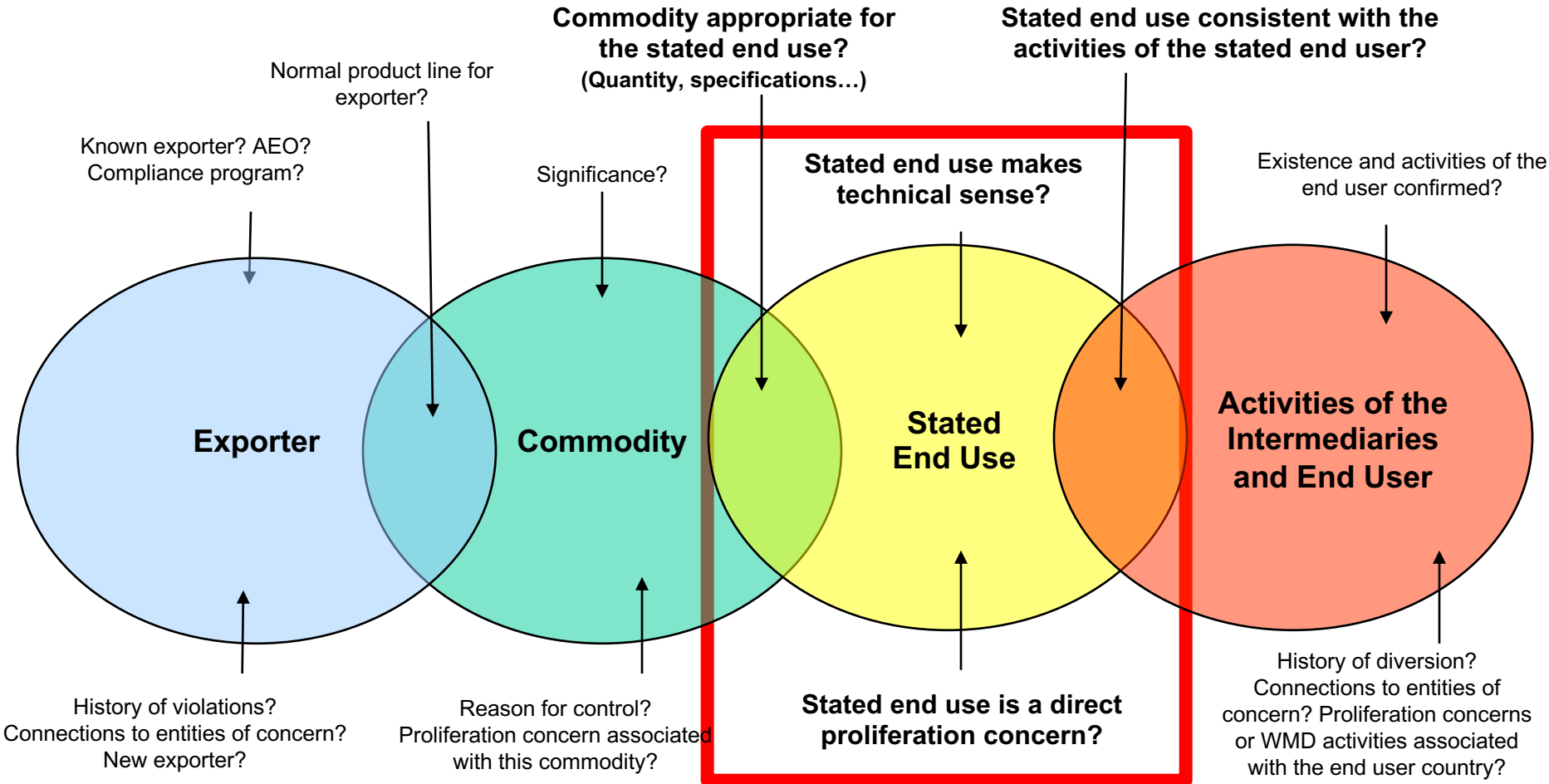
# ***End Use Definitions***

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- **End Use**
  - The ultimate specific use of a manufactured product or technology
- **End Use Statement**
  - Declaration by applicant of why the item is being requested and how it will be used
- **End Use Assessment**
  - The process of performing a technical assessment of the stated end use in relation to the requested commodity and the activities of the end user

Technical evaluation of the stated end use is a critical and essential part of identifying and assessing risk in export licensing.

# License Review Methodology



End Use Assessment links to both the Commodity and the End User.

# ***Key Elements of an End Use Assessment***

- 1. Technical validity of stated end use**
- 2. Appropriateness of commodity for stated end use**
- 3. Consistency of stated end use with activities of end user**
- 4. Proliferation concern of stated end use**

Does stated end use make sense?

Is the commodity appropriate and suitable for the end use?

Is the stated end use consistent with the activities of the end user?

Is the stated end use a proliferation concern?



Describe the stated end use in lay terms, how the commodity applies, and whether it is appropriate for the end user

If not suitable, explain why not (materials, specifications, quantity, etc.)

Explain proliferation concerns associated with the end use

# ***What Information is Needed to Perform an End Use Assessment?***

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- **Procurement details**
  - Item name and other unique identifiers, e.g., trade names, CAS number, HS number, model number
  - Note quantities, cost, and special requests
- **Commodity technical specifications**
  - Note special features
    - *Special materials of construction, e.g., corrosion-resistant*
    - *Exceptional performance characteristics, e.g., high accuracy and precision*
  - Understand requested or potential modifications
    - *Used “as is” or upgraded to more stringent specifications (e.g., software upgrades)*

# ***What Information is Needed to Perform an End Use Assessment? (Continued)***

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- **End Use Conditions**
  - Typical commodity performance requirements for the stated end use conditions
  - Scale of operation of stated end use – e.g., production vs. R&D
  - Typical usage/replacement rate (if applicable)
  - Special operating conditions – e.g., corrosive environment, ultra-high vacuum, etc.
- **End User Activities and Requirements**
  - Investigate the end user's business activities
  - Understand industry norms and trends
- **WMD or delivery system applications (direct or indirect) of stated end use**
  - For example, product literature that references military, missile, or nuclear uses, or uses related to chemical or biological agents

# 1. Technical Validity of Stated End Use

- **Is the end use statement complete and sufficiently detailed?**
  - If insufficient information is provided, request more information
    - *Unwillingness to supply more detailed information is a red flag*
- **Does the end use statement demonstrate familiarity with the commodity and the end use processes?**
  - *Be careful of vague use descriptions such as “spare parts”, “research,” or “proprietary applications”*
- **The credibility of the stated end use must be carefully verified, i.e., does the stated end use make technical sense?**
  - Can the item really be used the way they say it will be used?
  - Is the commodity routinely used that way (industry norm)?
  - Be careful of overly-technical end use statements that may be intended to obfuscate

A good end use statement will describe in detail what item is being requested, where it will be used, and exactly how it will be used or applied.

## **2. Appropriateness of Commodity for Stated End Use**

- **Is the quantity, cost, performance, and special features of the commodity appropriate for the stated end use?**
  - Does the quantity make sense?
    - *Consider usage rate and scale of operation*
  - Are these performance characteristics required for the end use?
  - Are special materials of construction (or other special features) really necessary?



Could a less expensive, less capable, or uncontrolled item be used?

### ***3. Consistency of Stated End Use with Activities of End User***

- **Investigate the business activities of the end user and assess whether the stated end use is consistent with those activities**
  - Is the end user really in the type of business it says it is?
  - Does the stated end use make sense in the context of what the end user does?
  - Are there new or trending industrial applications under development?



Complete end user analysis is covered in Module 6.

## **4. Proliferation Concern of Stated End Use**

- **Is the stated end use related to a WMD or delivery system application?**
  - e.g., “researching uranium isotope separation techniques” or “high-speed diagnostic development”



**The four end use assessment questions are intended to uncover red flags and anomalies**

## ***Commodity Technical Specifications Inappropriate for Stated End Use***

- **A U.S. firm applied for a license to export a vibration test table**
- **The stated end use was “testing household appliances such as washing machines.”**

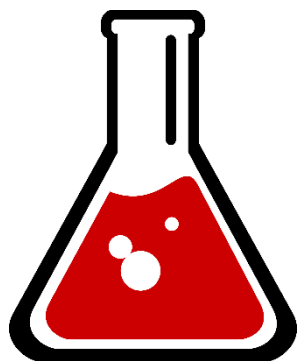


- **Technical analysis showed:**
  - The specifications far exceeded those needed for the declared use
  - The vibration test table would be very suitable for testing missile warheads
  - The purchaser was suspected of supplying recipient country's missile program

Undeclared or falsely described end use.

# ***Commodity Requested Inappropriate for Stated End Use***

- **A U.S. firm applied for a license to export a dual-use chemical of CW proliferation concern**
- **The stated end use was for use in a chemical assay**
  - Detailed description of the assay was provided, including how the requested chemical would be involved
- **Technical analysis showed:**
  - It was impossible for this chemical to play the role claimed in the stated end use
  - The chemical used in the standard assay had a similar name to the requested chemical, but was uncontrolled
  - The amount of the chemical requested was small and not significant from a proliferation standpoint
  - The end user was a legitimate company with no proliferation concerns



Mistake by the importer? Or careless cover story?

# Red Flags

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- **Some commodity-specific information in a license application could include red flags for proliferation risk related to the end use**
- **Possible red flags include:**
  - Stated end use related to a WMD or delivery system application
  - Vague end use statements such as “research and development” or “laboratory testing”
  - Applicant unwilling to supply additional, detailed end use information
  - Technical specifications or procurement details (e.g. quantity, cost) inappropriate for stated end use
  - Stated end use and/or commodity specifications inconsistent with needs or activities of end users
  - A customer declining installation and testing when normally included in the sales price or when normally requested
  - Requests for equipment configurations that are incompatible with the stated destination (e.g., 120 volts in a country with 220 volts)

# ***Considerations for Developing an End Use Assessment***

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- **The end use assessment will constitute one section of the final Proliferation Risk Assessment (Module 8)**
- **An organized end use assessment will always include the following key information processing steps**
  - Summarize the stated end use
  - Explain whether the commodity is or is not appropriate for the stated end use
  - Explain whether the stated end use is consistent with the activities of the end user
  - Describe any proliferation concerns of the stated end use
- **Use language understandable to both technical and non-technical audiences without sacrificing accuracy**
- **Cite information sources**

# ***Technical Resources for Conducting an End Use Assessment***

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- **Technical experts**
  - Someone (not the end user) who has knowledge of the commercial uses and/or WMD applications of the commodity
- **Applicant or Manufacturer**
  - Company website may provide product details (catalogue, technical data sheets) and typical end uses
- **Competitors to the applicant**
  - Independently verify product usage, price, etc.
- **Product technical references, websites, or databases**
  - Information on specific types of products, variations, and/or examples of how the product is used in industry or research
- **Industry publications or newsletters**
  - Information on standard industry uses, technical trends, etc.
- **Regime websites**
  - e.g., AG and MTCR commodity handbooks available online

Use information from authoritative, trustworthy sources.  
Seek multiple sources of information whenever possible.

# ***Exercise 5.1.1: End Use Assessment***

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# ***Exercise 5.1.1***

## ***License Application Information***

- **Procurement**
  - 20 Monel® bellows-sealed valves
  - ½ inch nominal openings
  - Price: \$1300 each
  - ECN: 2A226
- **Stated-End Use**
  - For use as replacement valves in municipal water treatment chlorination systems.
- **End User**
  - Water management authority in a medium-sized city.



Address the End Use Assessment Questions on the form provided;  
NOT asking for an exact technical evaluation, but rather “what type of  
information would you need”

## Exercise 5.1.1

# Stated End Use Technically Valid

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**Stated-End Use:** For use as replacement valves in municipal water treatment chlorination systems

1. **What questions would you ask to determine if the stated end use makes technical sense?**
  - a) **Would water treatment systems use chlorination?**
    - Yes
  - b) **Would chlorination systems use bellows-sealed valves?**
    - *Yes, bellows-sealed valves are applicable with processes that use chlorine*
  - c) **Are valves items that may need replacement in a water treatment system?**
    - *Yes, due to the corrosive environment*

## Exercise 5.1.1

# Commodity Appropriate for Stated End Use

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**Stated-End Use:** For use as replacement valves in municipal water treatment chlorination systems

2. **List at least three pieces of information you would need to evaluate the suitability of these specific valves for the stated end use**
  - a) Valve details currently used in chlorination system (e.g., quantity, type, age, technical specifications)
  - b) Typical quantity of valves used in this type of application
  - c) Appropriateness of material of construction for use with chlorine
  - d) Expected valve replacement rates/quantity for chlorination system

Part number is revealed to be HF11.35.

## **Exercise 5.1.1**

# **End Use Consistent with Activities of End User**

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**Stated-End Use:** For use as replacement valves in municipal water treatment chlorination systems

- 3. What information would you need to determine if the stated end use is consistent with the activities of the end user?**
- a) End user details: Location, contact information, role in facility maintenance and operation
  - b) Number, type, and size of municipal water treatment facilities involved
  - c) Age of chlorination systems involved
  - d) Connections between declared end user and suspicious entities
  - e) Licensing history

## Exercise 5.1.1

# Proliferation Concerns

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**Stated-End Use:** For use as replacement valves in municipal water treatment chlorination systems

4. Describe how you would determine if the item could be used for a WMD or delivery system application
  - a) Investigate WMD and delivery system applications based on controls
    - *ECN 2A226 points to a nuclear concern (NSG origin)*
    - *Corrosion-resistant valves also controlled under ECN 2B350.g for chemical weapons concern (AG origin)*
  - b) Are there any red flags present?
    - *Quantity ordered could be excessive*
    - *Price is high – is that typical?*
    - *Construction material is not typical for chlorine environments; well-suited for fluorine environments*

## **Exercise 5.1.1**

# **Next Steps**

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5. **What are possible next steps for deciding whether to approve or deny the license?**
  - a) **Ask for more information from the applicant**
  - b) **Research WMD programs in recipient country**
  - c) **Consider license conditions to mitigate risk**

# Summary

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- **End use assessment is the process of performing a technical evaluation of the stated end use in relation to the requested commodity and the activities of the end user**
- **An end use assessment requires sufficiently detailed information**
  - procurement request
  - commodity technical specifications
  - end use conditions
  - end user business activities
  - industry norms and trends
  - WMD or delivery system applications of stated end use
- **Reviewers should be aware of red flags related to end use assessment**
- **Use best practices when writing an end use assessment**
  - organization, language, resources
- **Be familiar with technical resources for end use assessments**