In this exhibit the Informative References (IR) have been grouped and linked to support the lifecycle goals of the cybersecurity Framework. The grouping of Informative References maintains the same grouping established by NIST in the "Framework for Improving Critical Infrastructure Cybersecurity" Core document. The current scheme in NIST CSF Reference Tool has high duplication in core components. This causes each table in the CSF Tool to be 5 to 10 times larger than required, making it difficult to navigate, while requiring additional steps to resolve the reference. The following example uses IR groups and links to minimize content in the CSF Tool, and quickly access the IR references.

<table>
<thead>
<tr>
<th>Function (ID)</th>
<th>Category</th>
<th>Subcategory</th>
<th>Informative References (IR) Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function (ID)</td>
<td>Asset Management</td>
<td>ID.AM-1</td>
<td>ID.AM-1-IR1</td>
</tr>
</tbody>
</table>

The embedded Informative Reference link (ID.AM-1-IR1) is a hyperlink connection to the list of Informative References for the subcategory shown in this example. Clicking through the links connects to the website for the particular IR.

Sheets 2 and 3 on the attached Excel spreadsheet shows the flexibility of this technique.

Benefits of using Embedded Links for Informative References:
- This procedure simplifies the usage of the Cybersecurity Framework and Informative References.
- It decouples the subcategories from the informative references while maintaining the core relationships with functions, categories, and subcategories.
- The procedure gives organizations a persistent view of their target Framework profile in light of standards evolution.
- It supports the goal of Framework lifecycle management by minimizing impact to the organization's business processes and security documentation.
- Embedded IR links supports a living framework development process by maintaining consistency in IR representation across iterative Framework refinements.
- The procedure enables organizations to maintain focus on cybersecurity business requirements, while the embedded IR references are linked to the dynamic security-mechanisms.
- Embedded IR Links significantly reduces the number of entries in the CSF Tool organizations will need to navigate.

Experience: Deliver industry presentations and consulting services to private organizations on comprehending and implementing the 2014 Framework for Improving Critical Infrastructure Cybersecurity.

Dr. Wilson

Attachments: 2 Sheets (Revised Core and IR block)