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IT Secondary Cabling

Conduit Connector Security Seal Requirements

Revenue Metering Subcommittee Meeting

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Background

- Wholesale Revenue Metering Standard - Hardware states:

6.2 Security

6.2.1 Security Requirements

Instrument transformers connections to cabling shall be secure and tamper proof.

6.2.2 Seals

Sufficient seals shall be placed to ensure detection of unauthorized access to the *instrument transformer* secondary connections.

Background (2)

7.4 Additional Requirements – New Instrument Transformers

7.4.1 Codes and Conditions

Instrument transformer secondary cabling and cabling accessories shall comply with the following codes and conditions:

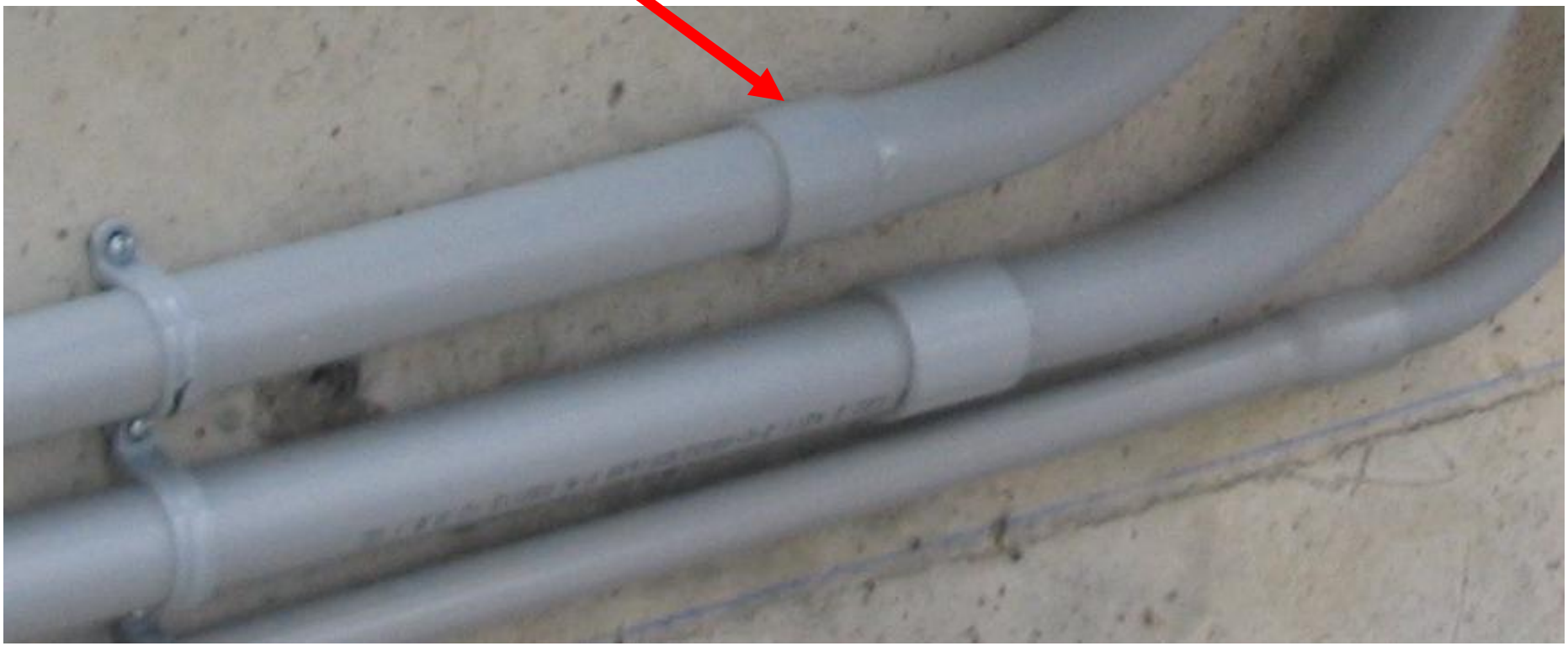
j. cabling from the *instrument transformers* to the *meter* enclosure shall be routed in dedicated conduit or have protective qualities such as Teck 90 cabling;

IT Secondary Cable Conduit Connector Issues

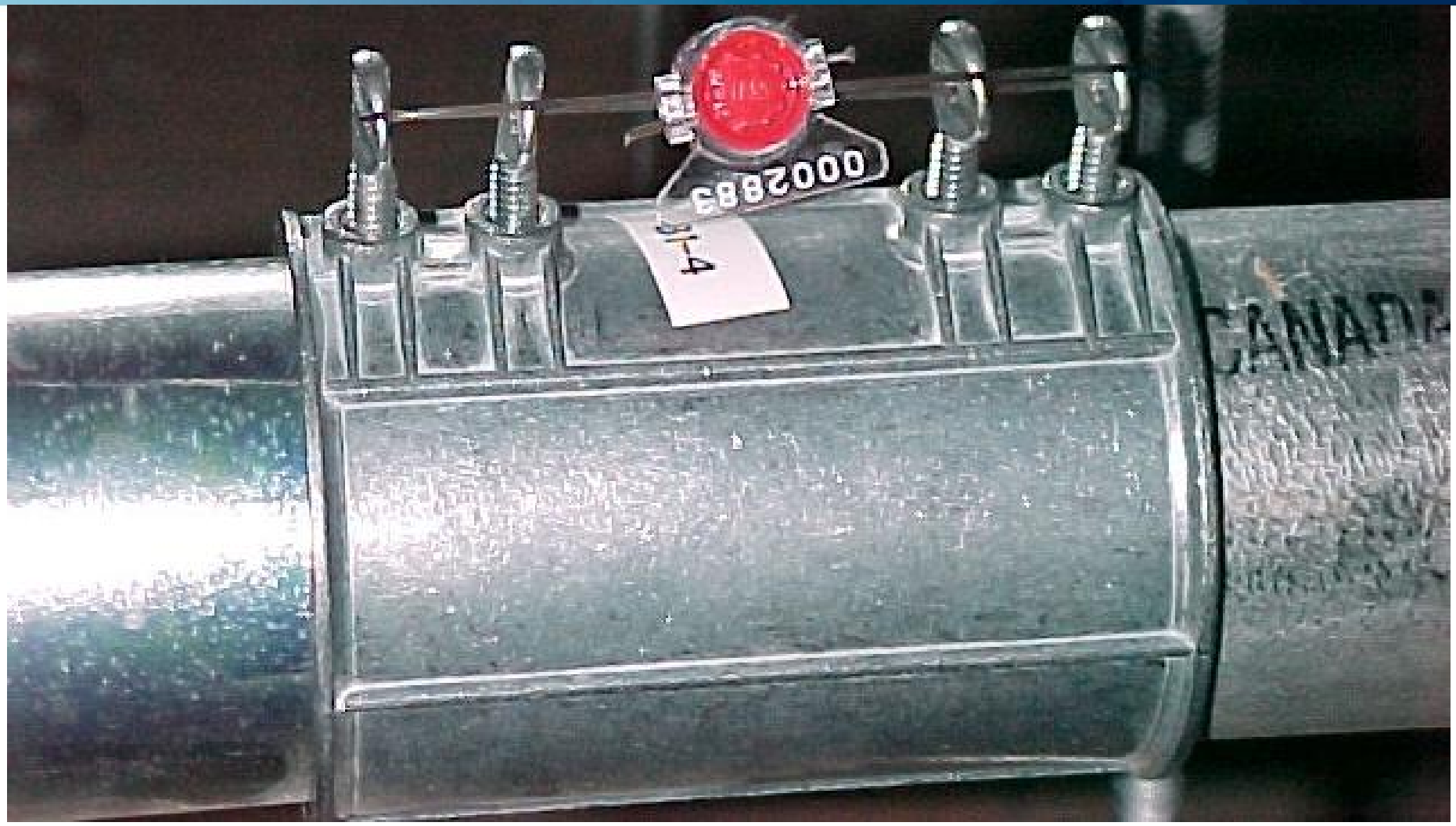
- PVC conduit sections can be welded to prevent access to IT secondary cables
- EMT conduit has mechanical connectors that allow access using hand tools
- To date, IESO staff have required MSPs to install security seals on "all IT secondary cabling access points" – including metallic mechanical conduit connectors

Typical Welded PVC Conduit Connector

PVC Conduit Coupling and 2 Welded Joints



Typical EMT Conduit Connector Sealed by MSP



MSP Proposal to "Disable Access" at EMT Conduit Connectors

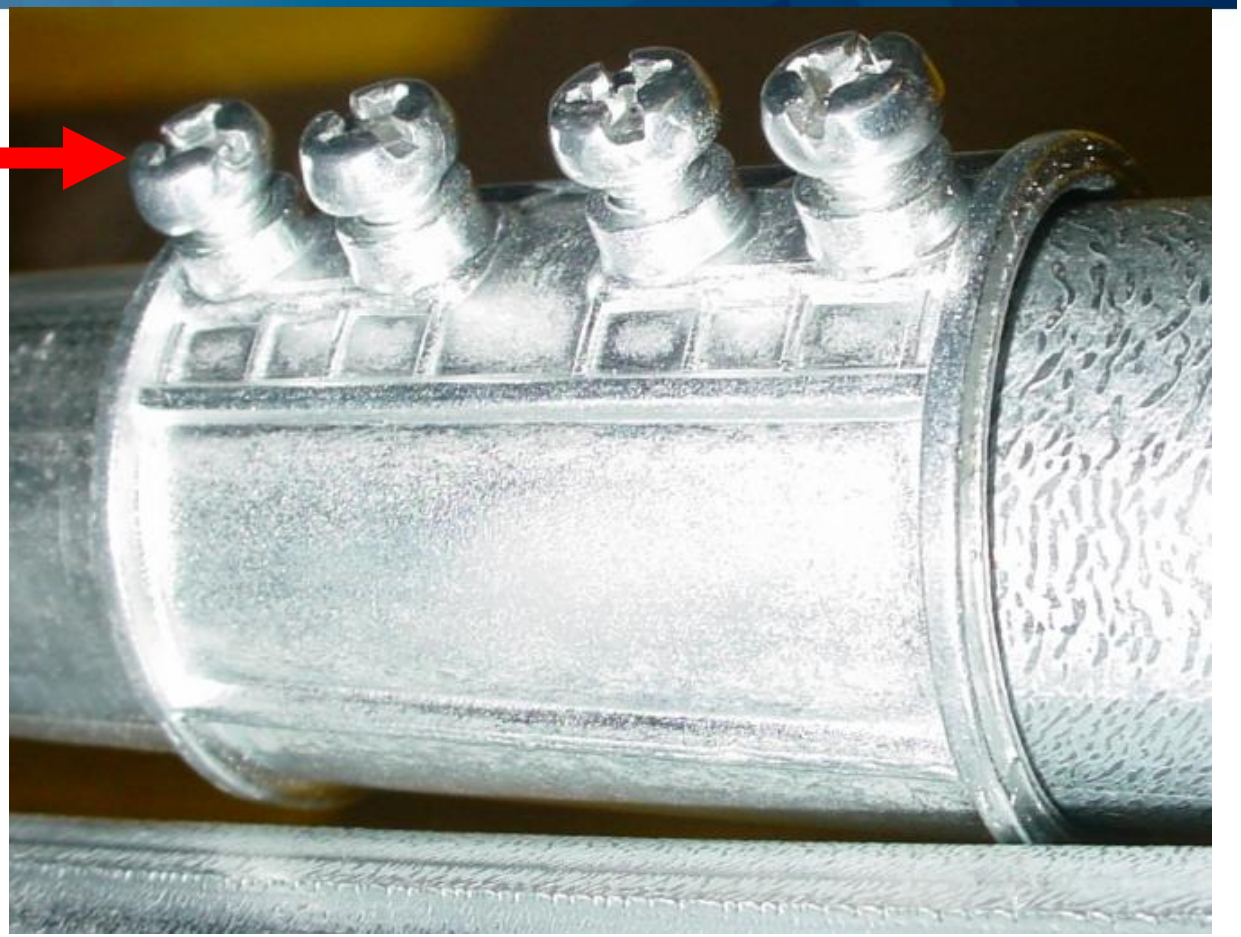
- After the EMT conduit system is assembled, the MSP tightens all set screws at the EMT connector and saws off the screws to prevent future access

- If accepted, this proposal would eliminate the need to install a security seal on any EMT connector that has been permanently disabled by the MSP

- Benefits include:
  - Fewer security seal points to install and maintain by MSP
  - Security seals must be verified for integrity by MSP during annual inspection of metering installation
  - Lower cost of ownership for MMP

Proposal to Disable Access Point at EMT Conduit Connector

Tighten set screw connectors, then cut off screw heads flush with connector base to prevent future access to IT secondary cables.



Do Members of the RMSC Support This Proposal?

- IESO staff support this proposal:
  - Consistency with security requirements for PVC conduit connectors
  - Eliminates a conduit "access point" – thus no security seal required
  - Reduces long term costs for both MSP and MMP