Training CPG Staff to Support NETS at NWSC

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I have been tasked with providing training for the CPG staff to assist NETS at NSWC during outages where NETS staff cannot remotely troubleshoot or reach the site. Here is a brief itinerary of what I plan to cover and some discussion items. I think it would be a good idea to start with two CPG staff per session and plan on one hour of training. I would like to start with some basic networking discussion just to determine the scope and level of training is desired. Here is an outline of topics.

- Safety of Staff/Equipment:
  - This is a very important area we will cover in this training session
  - The first and last step of every procedure involving equipment is grounding
  - Basic discussion on how all the equipment is grounded
  - Demonstrate and discuss the importance of grounding straps/ground mat
    - Demonstrate using a ground strap
    - Demonstrate where to install the ground strap on the 6509 chassis
    - Plan on using our mocked up test switch for this
  - Using anti-static bags for the Cisco cards
    - Demonstrate how the cards should be handled along with the bags
    - Demonstrate how to properly remove a card from a switch while safely inserting into an antistatic bag
  - Basic awareness of your surroundings:
    - Watch for open floor tiles
    - Identify other hazards
    - Explain why safety glasses and hard hats are necessary

- Labeling Items
  - Making sure any time a device or any piece of equipment is removed it must be labeled to insure that it is put back into its proper location (e.g., cards and cables)
  - Demonstrate this procedure

- Understanding Labeling Location
  - Example Labels: L:ML-29/AL59-P1-C6:23  B:ML29/AK56*DSG:eweb2-1
    - Review the five basic components of the label:
      - Building, Rack, Panel, Cable type, and specific port
    - How to identify the other end of the label
      - Trainee performs cable traces
      - Trainee performs fiber port traces that lead them to a server

- Nagios Procedures
  - Demonstrate how all NETS device are monitored in Nagios
  - Understand the basic components of Nagios
  - Demonstrate how to use the contacts page to notify NETS staff

- Power Cables
  - Demonstrate some basic power cables
  - Emphasize do not power off any equipment or unplug any cables unless instructed to
  - Show a few examples of our power connectors.
    - L6-30 feeds the UPS and some switches
    - L6-20 is what feeds most power supplies
    - L14-30 use for UPS on distribution
    - 5-20 and 5-15 for power strips

- Network Cables
  - Display NETS basic cat5E/6 copper cables
    - How to read the length and type of cable
• How to install and uninstall a cable
• Explain why cables are routed a certain way
• Show how to dress cables
• Explain why copper is dressed separately than fiber
• Explain why power should never be in the same area as networking
• Demonstrate how to tell if a cable has link or not
• Review basic good and bad practices

- Hydra Cables
  - Demonstrate how to remove and install a set of Hydra cables on our mocked up test switch
  - Explain the labeling of the cables and how they are laid out
  - Explain why the cables are dressed in a particular way

- Fiber
  - Explain how the fiber panels are laid out
  - Demonstrate how to install and remove fiber connectors
  - SM: show a few examples, usually yellow in color
  - MM: Show a few examples, Orange is 62.5 micron, Aqua is 50 micron, explain the difference
  - Show examples of different connectors: LC, SC, ST
  - Explain basic practices on how to handle fiber
  - Explain the new Plug and Play fiber

- Switches
  - Cisco 6509
    - Demonstrate how to tell what type of switch it is
    - Demonstrate how the modules are numbered and how the lettering of a patch panel corresponds

- Networking cards
  - Demonstrate how to tell what type of card it is and here the model number is
  - Demonstrate the difference between and GigE card, Supervisor Module, or Fiber Module

- NEXUS 5000/7000
  - Show the trainee one of these NEXUS devices in the computer room
  - Demonstrate how the cables are dressed and why

- Power Supplies
  - Show the different types of supplies
  - Explain redundancy and the sequence of how to swap the supplies
  - Demonstrate how to swap a power supply

- Fan Blade
  - Demonstrate how to swap out a fan blade