Wireless Field Office – USA Locating

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Why is damage prevention our mission at PG&E?

- Inaccurate marking can cause loss of life, loss of property and service interruptions. It affects our bottom line…. Our mission is to preserve the safety of the public.
- PG&E - One of largest private utilities in US.
  - 14 million customers in north and central California
  - $30 million/year program on USA
  - 70,000 miles – Gas Trans and Disbn
  - 130 miles – Electric Trans and Disbn
- Over 2,000 locate requests per day
  - 2 different OneCall Centers
    - 28 day lifecycle

What are we doing to prevent damage?

- Stand-by required on all high consequence facilities
- Improve root cause analysis
- Production locate school (Simulate City)
- Participate in legislative process
  - Cal-OSHA
- Participate in Industry Best Practice
  - CGA (Common Ground Alliance)
    - DIRT (Damage Information Reporting Tool)
  - NULCA (National Utility Locator Contract Association)
- One excavation, one locator
- Coordinate with agencies (fire, police, CPUC)
- Public awareness
  - Advertising on bill inserts
  - SAFE events - excavator
  - Publications highlighting “Call before you Dig”

Reduce total dig-ins

- Locate within the law
  - 2 day working notice
  - Get work requests (tickets) to work force in a timely manner.
- Accurate Locates
  - Stand-by excavation site as appropriate
  - Educate, educate, educate…public and workforce.
  - Investigate best technology for locating
  - Provide detailed maps
    - Parcel data
    - Aerial imagery

Current manual process

- Paper copy of map and USA ticket request routed to locator via employee dispatch
- Facility located
  - Field worker documents methods used for locating and contact with excavators
  - Comments hand written by field locator on ticket
  - Employee enters comments from field on ticket processing software
- Electronic ticket and comment stored on server
- This method relies on paper trail:
  - Along this path a paper ticket can get lost and undocumented.

Mobile M&L Program

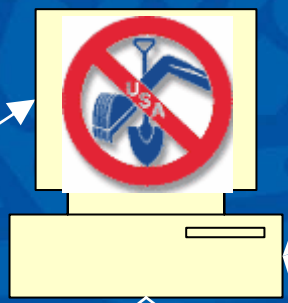
- Screening
  - Tickets are pre-screened using rules (close no re-mark required tickets)
- Routing
  - Tickets routed according to assigned locator area
  - Back office can re-route as necessary (supervisor in the field will have access to back office)
- Positive Response
  - Reply to excavator if there is no conflict with facilities (IVR, fax, email)
  - Future positive response to One Call Center

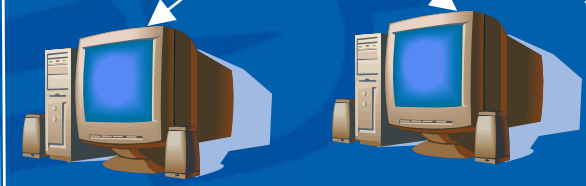
Process map

Excavator

OneCall Center

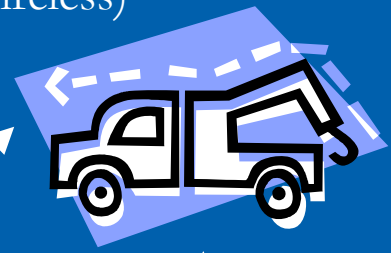
(Server)
Receives tickets, determines locate area and transmits accordingly





Desktop Computers – self serve reports, balancing work load

PGE Locator Vehicles (Wireless)



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How are we going to accomplish our damage prevention mission?

- Receive USA tickets via a wireless connection on a computer mounted in the vehicle
  - Get the tickets to the locators as fast as possible
  - Give the locators the resources they need
    - Electronic maps are displayed based on excavation location
  - Complete the tickets accurately and on time
  - Document, complete and send back to the server from the vehicle
- Utilize support that our company provides through new initiatives:
  - Supervisors in the field to coach locators – more accurate/efficient locates
  - Work and Resource Planners – manage and adjust work load for locators
  - Safety Health and Claims – produce self-reports, identify non-compliant excavators, pursue claims against offenders.

What resources do we need?

Hardware

- Mobile device – Tablet, PC, Ruggedized????
- GPS unit – external antennae, combination device (wireless card, GPS)????
- Wireless card and service (we need access to tickets even when out of service – download to device)
- Mounting hardware – lots of solutions, what is the best?

What resources do we need? (cont.)

Software:

- Ticket Processing Software –
  - Screening
  - Routing
  - History tracking
  - Data base capability
- GIS
  - Must use scanned plats

Current Progress

- Pilot implemented (20 units)
  - We have used IBM laptops (A22!!! And recently T40) ($1,500)
  - We have also used ruggedized tablets ($5,500)
  - All have GPS units attached.
- Initial efficiency gains **almost 20%**
- Entire distribution system maps scanned by end of 2005
- Approved system-wide implementation 2006

Next Steps

- Develop enterprise-wide plan
- Lessons learned
  - Devoted trainer to:
    - Update the scanned plats on devices?
    - Update the software on devices?

    We need a well documented process, not "bleeding edge and hating every minute" Confidence levels drop very quickly.
  - Develop training and deployment program
  - Investigate best device to be used across a wide variety of terrain/atmospheric conditions.

Questions?

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