

# **ILMS 205 SALES ORDER OUTPUT/PROCESS IMPROVEMENT PLAN**

**HUGH RUSSELL, ADMIN MANAGER,  
PWE HPC BLDG  
1002 WASHINGTON**

## EXECUTIVE SUMMARY

COH currently requires a “face-to-face” meeting with Design Professionals needing add-on fee-based services, for services such as revisions, S9’s and Customer Paid Overtime requests.

---

**Using LEAN SIX SIGMA DMAIC Methodology, the following Summary details the “process”**

- By examining appointment set-up, ‘swim lane’ diagram detailing travel time for the COH customer/employee, salary/time/talent waste, over-processing, etc...

**The following FINDINGS detail the “cost” associated with this “face-to-face” meeting requirement**

- As assessed to the COH Customer/COH payroll by the “process” (required by lack of ILMS functionality)

**These external costs are added on due to the “process”, over and above the Review Fee assessed for the actual plan review**

- This “cost”, that is assessed to the COH customer/employee in a variety of ways, is able to be controlled, and, in fact, negated...

# CURRENT PROCESS

**SUBMIT NARRATIVE/SCOPE OF  
WORK/CPO REQUEST**

- COH Customer tells Staff what they want

**COH STAFF INPUTS DATA THAT  
INCURS FEES OWED BY THE  
CUSTOMER**

- COH Staff inputs data that specifies required departmental review and assesses fees for plan review and other services

**COH STAFF GENERATES A SALES  
ORDER THAT...**

- The COH Customer must have in order to pay for this added service, in a hard-copy paper format.



# PROBLEM STATEMENT

---

**PROBLEM STATEMENT:**

The ILMS data entry system does not have the ability to:

provide COH staff with a "SAVE" function (see next slide of 205 screen) that provides a hard-copy/pdf SALES ORDER that can be saved to a file for emailing as an attachment;

this makes it impossible to offer the COH customer the option to conduct this transaction via email;

saving over-processing time, human talent/time waste, motion waste, inventory/office supply waste and environmental waste.

# 205 SCREEN EXAMPLE

(205) Fee Collection Project: 15130412 - NEW RESTAURANT

Additional Functions 109-Project Holds 297-Permit Fees 220-Invoice Maint. 105-Contractor Attachments 599-Contractor Maint.

Contractor Name & Address --- Use the Search Feature to Select the applicable Contractor

Last/First/Middle

☒ Individual ☐ Corporation or Firm

Contractor Select

Next Name

Name

Address No. Fraction Direct Street Name Street Type Unit

City State Zip Code

Phone License No/Type

Receipt Detail --- Project Address: 700 BAYBROOK MALL # BLD F

Permit Type	Description	Entry Source	Entry Status	Selection	Entry Fee
13	Building Pmt	Permit	Permit On Hold		2,100.45

Receipt Number PENDING

Dated / By 12/01/2015

Invoice Number

Validate User Input & Calculate Fees

Minimum Fee Difference

Surcharge Fee

Delinquent Fee

TOTAL FEES

Payment-1 Type Check No. ABA No.

Payment-2 Type Check No. ABA No.

BALANCE DUE

(205) Print

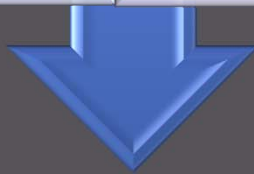
☐ Exit Screen on successful Print/Post

# MISSION STATEMENT

**Work with the ILMS I/T group responsible for upgrading/modifying the ILMS Permitting software**

to add the functionality within the ILMS permitting software that provides a WEB URL, which, when pasted into a web browser address bar; then...

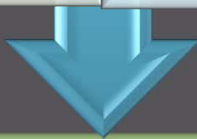
provides the customer with a SALES ORDER usable by the COH cashiers for payment of these add-on type review services.



**Using buy-in by the COH Customer/Staff, proceed with implementation/modification to ILMS**

For additional highlights/references: (see VOICE OF THE CUSTOMER SURVEY showing high degree of customer desire for such a modification)

For an example of the current ILMS upgrade/web URL that is in beta-testing is:



<http://www.pdinet.pd.houstontx.gov/cohIlms/webs/PDF205PT.asp?EpayNumber=01097769&AccessKey=57f> –



# CURRENT 205 SCREEN FORMAT

(205) Fee Collection Project: 15130412 - NEW RESTAURANT

Additional Functions 109-Project Holds 297-Permit Fees 220-Invoice Maint. 105-Contractor Attachments 599-Contractor Maint.

Contractor Name & Address --- Use the Search Feature to Select the applicable Contractor

Last/First/Middle

☒ Individual ☐ Corporation or Firm

Contractor Select

Next Name

Name

Address

No. Fraction Direct Street Name Street Type Unit

City State Zip Code

Phone License No/Type

Receipt Detail --- Project Address: 700 BAYBROOK MALL # BLD F

Permit Type	Description	Entry Source	Entry Status	Selection	Entry Fee
13	Building Pmt	Permit	Permit On Hold		2,100.45

Receipt Number PENDING

Dated / By 12/01/2015

Invoice Number

Validate User Input & Calculate Fees

Minimum Fee Difference

Surcharge Fee

Delinquent Fee

TOTAL FEES

Payment-1 Type Check No. ABA No.

Payment-2 Type Check No. ABA No.

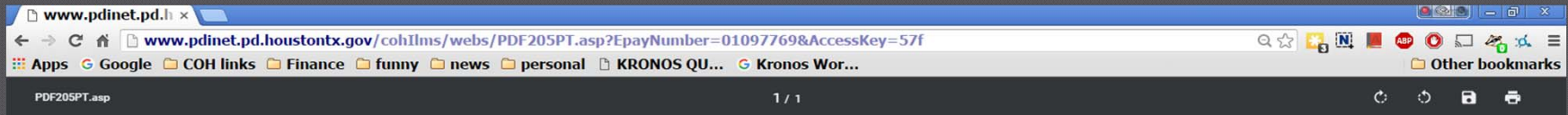
BALANCE DUE

(205) Print

☐ Exit Screen on successful Print/Post

PRINT ONLY  
BUTTON

# SAMPLE WEB URL OUTPUT



**CITY OF HOUSTON**  
PERMIT CENTER - CODE ENFORCEMENT DIVISION  
1002 Washington Ave, Houston, TX 77002  
Point of Sale Transmittal 22-DEC-2015

Note: This is not a permit and does not authorize the holder to perform any work.

Customer Name/Address	Payer Name/Address
JACOB WHITE CONSTRUCTION CO. 2000 W PARKWOOD AVE # 100 FRIENDSWOOD, TX, 77546 281-480-7510	JACOB WHITE CONSTRUCTION CO. 2000 W PARKWOOD AVE # 100 FRIENDSWOOD, TX, 77546 281-480-7510

Project-No	Description
15091686	CHVRT 11536 SF BLDG TO FAC BREWING 1-1-2-F2/S2/B-B 06 IBC 100% SPK
	9411 W 18TH ST
	HOUSTON, TX 77008

Permit: SX	*SX* PLAN EXPRESS REVIEW FEE
1	OT Elec Rev
	Administration Fee
	Total Permit Fee
	TOTAL AMOUNT DUE

264.22
27.52
291.74
291.74

Shopping Cart: 01097769


\*001-01097769\*

All project  
data/fee  
codes here

Sales order bar-  
code/cart #



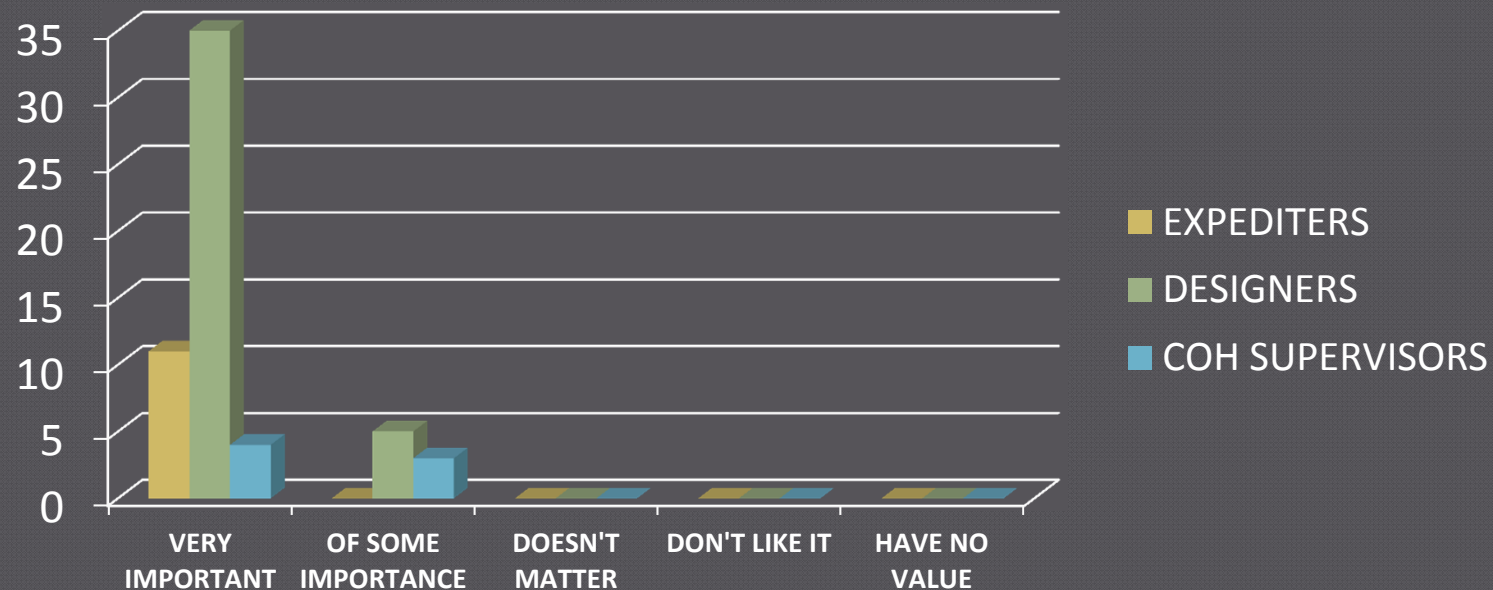
# PROJECT CHARTER

<b>Date:</b>	12/01/2015
<b>Project Title:</b>	ILMS 205 SCREEN UPDATE FOR REVISIONS AND S9 SET-UP/SALES ORDER GENERATION
<b>Project Leader:</b>	HUGH (TREY) RUSSELL
<b>Champion:</b>	EARL GREER, DEPUTY DIRECTOR, HPC-PWE – signed: 
<b>Department Description:</b>	PLAN REVIEW - HPC
<b>Problem Statement:</b>	ILMS does not have a "SAVE" function on the 205 sales order generation screen, only "PRINT". this causes COH employee wasted time/talent, motion, over-processing, paper consumption and wasted customer time/fuel/travel costs and degraded customer service experience
<b>Mission Statement:</b>	Modify ILMS software to add the ability to generate a web URL function on the 205 sales order generation screen; this will decrease COH employee labor costs by approximately \$341,250.00/year, save each individual customer travel/time waste expense of approximately \$52,000.00/year/customer, reduce COH employee wasted talent/time by approximately 13,650 hours/year, as well as enhance/improve the COH customer service experience due to their personal time/cost savings.
<b>Stakeholders:</b>	EARL GREER - BUILDING OFFICIAL BRUCE LAMBRIGHT- MEP MANAGER KEN PORTER - ILMS SOFTWARE CONSULTANT GEORGE POLI – FIRE PROTECTION MANAGER LUIS VILLASANA – STRUCTURAL ADMIN MANAGER HUGH RUSSELL – MEP ADMIN MANAGER ALL PLAN REVIEW STAFF AND COH PRIVATE DESIGN PROFESSIONALS ILMS CODE DEVELOPMENT GROUP
<b>Project Scope</b>	
<b>Process Start:</b>	12/01/2015
<b>Process End:</b>	12/31/2015
<b>In Scope:</b>	MODIFY ILMS SOFTWARE, ISSUE PUBLIC POLICY STATEMENT BY BUILDING OFFICIAL, DISTRIBUTE NEW POLICY TO ALL STAKEHOLDERS IN ORDER TO ENSURE UNDERSTANDING, USE AND COMPLIANCE WITH NEW POLICY/CAPABILITY

# VOICE OF THE CUSTOMER

USING AN OPINION SURVEY, SENT TO ALL PLAN EXPEDITERS, PWE SUPERVISORY STAFF AND ASSORTMENT OF DESIGNERS/ARCHITECTS:

- I ASKED THIS GROUP, ON A SCALE OF 1 TO 5 (1 = NO VALUE TO THEM, 5 = GREAT VALUE TO THEM), WHAT VALUE THIS NEW PROCEDURE WOULD HAVE TO THEM, IN SAVED PROCESSING TIME, SAVED TRAVEL/WAIT TIME, EASE OF USE –



# SALES ORDER AFFINITY DIAGRAM

## ILMS 205 SCREEN TIME USAGE

### PROCESS ISSUES

#### PLAN REVIEW

APPROX. 15 MINUTE TURN-AROUND TIME FROM DESK TO LOBBY TO ADMIT CUSTOMER, TAKE TO DESK, INPUT DATA, PRINT S/O FOR CUSTOMER, AND RETURN CUSTOMER TO LOBBY

HUMAN TALENT/TIME OF COH EMPLOYEES SPENT IN MOTION WASTE

COST/WASTE OF CONSUMABLES (PAPER, TONER) FOR COH IN PRINTING OF ONE-TIME USE S/O'S

#### CITY OF HOUSTON

EMPLOYEE TIME/TALENT WASTED IN EXCESS PROCESS INVOLVED IN REVISION/S9 CREATION FUNCTION

EXCESSIVE USE OF COH CONSUMABLE OFFICE PRODUCTS PRODUCING A SALES ORDER FOR ONE-TIME USE

DEGRADED CUSTOMER SERVICE EXPERIENCE FOR COH CUSTOMERS DUE TO REQUIREMENT FOR PERSONAL VISIT TO HPC BLDG

### SOFTWARE ISSUES

#### ILMS SOFTWARE FUNCTIONALITY

MINOR MODIFICATION TO ILMS SOFTWARE TO UPGRADE CUSTOMER SERVICE EXPERIENCE

"SAVE" function and/or WEB URL generation option that displays the hard-copy SALES ORDER

ALERT PUBLIC TO EMAIL OF NARRATIVES/SCOPE DOCS TO PLAN ANALYSTS FOR S/O CREATION, EMAIL BACK AS ATTACHMENT

### External Factors

#### BUILDING OFFICIAL ANNOUNCING NEW POLICY

A PUBLIC POLICY ANNOUNCEMENT WILL NEED TO BE MADE INVITING PUBLIC COMMENT/INPUT

UPON IMPLEMENTATION OF ILMS CODE MOD, B/O ANNOUNCEMENT OF NEW PROCEDURE

TRAINING/ALERTING AFFECTED COH STAFF OF NEW POLICY/PROCEDURE AND IMPLEMENTATION



# BASELINE MEASUREMENTS – OLD PROCESS

---

## Finding #1

TOTAL TRANSACTION TIME INVOLVED (AVERAGE) = 15 MINUTES

## Finding #2

AVERAGE CUSTOMER TRAVEL TIME/TRANSACTION COMPLETION TIME = 2.0 HOURS

ONE TRANSACTION/DAY/CUSTOMER X 2 HOURS/DAY = 520 HOURS PER YEAR PER COH CUSTOMER:

ESTIMATE OF THE HOURLY CUSTOMER WAGE/TRAVEL EXPENSES @ \$200/HOUR:

TRANSACTION COST PER DESIGN PROFESSIONAL = \$104,000.00/YEAR/TRANSACTION

## Finding #3

TOTAL PLAN REVIEW STAFF TALENT/TIME WASTE = 27,300 HOURS PER YEAR:

AVERAGE PER HOUR BASE PAY COST PER ANALYST @ \$25.00/HOUR:

\$682,500.00 PER YEAR WAGE COST TO THE CITY OF HOUSTON

## Finding #4

CONSUMABLE OFFICE SUPPLY COSTS = \$25,000.00 PER YEAR

# BASELINE MEASUREMENTS – NEW PROCESS

---

## Finding #1

TOTAL TRANSACTION TIME INVOLVED (AVERAGE) = 5 MINUTES

## Finding #2

AVERAGE CUSTOMER TRAVEL TIME/TRANSACTION COMPLETION TIME = 0.0 HOURS

ONE TRANSACTION/DAY/CUSTOMER X 5 MINUTES = 22 HOURS PER YEAR PER COH CUSTOMER:

ESTIMATE OF THE HOURLY CUSTOMER WAGE/TRAVEL EXPENSES @ \$200/HOUR:

TRANSACTION COST PER DESIGN PROFESSIONAL = \$4,400.00/YEAR/TRANSACTION:  
(\$95,200.00 PER YEAR PER TRANSACTION COH CUSTOMER SAVINGS).

## Finding #3

TOTAL PLAN REVIEW STAFF TALENT/TIME WASTE = 9,060 HOURS:

AVERAGE PER HOUR BASE PAY COST PER ANALYST @ \$25.00/HOUR:

\$226,500.00 YEAR WAGE COST TO THE CITY OF HOUSTON:  
(\$456,000.00 PER YEAR COH EMPLOYEE TIME WASTE SAVINGS).

## Finding #4

CONSUMABLE OFFICE SUPPLY COSTS = \$0 (\$25,000.00 PER YEAR CONSUMABLES SAVINGS)



# OLD PROCESS VS NEW PROCESS COST COMPARISON

## OLD PROCESS



## NEW PROCESS

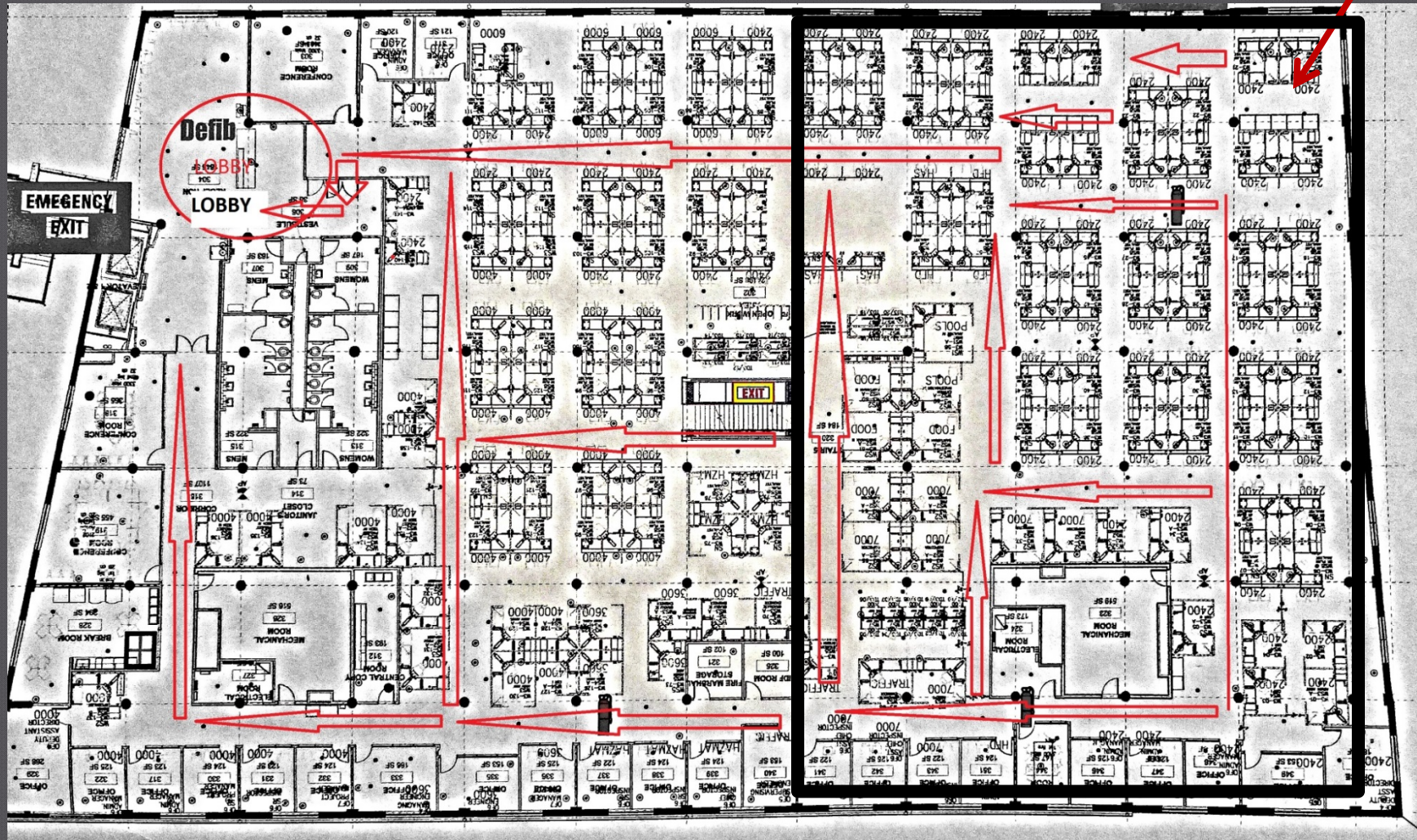




AVG TRAVEL TIME –  
DESK/RECEPTION/SET-  
UP AND BACK = 15  
MINUTES

# SWIM LANE

PLAN REVIEW  
SECTION AFFECTED  
BY P/I





# KNOWN PROCESS WASTE IN CURRENT PROCESS

---

1. TIME/TALENT WASTE
2. OVERPROCESSING WASTE
3. TRANSPORTATION WASTE
4. MOTION WASTE
5. WAITING TIME WASTE
6. OVERPRODUCTION WASTE

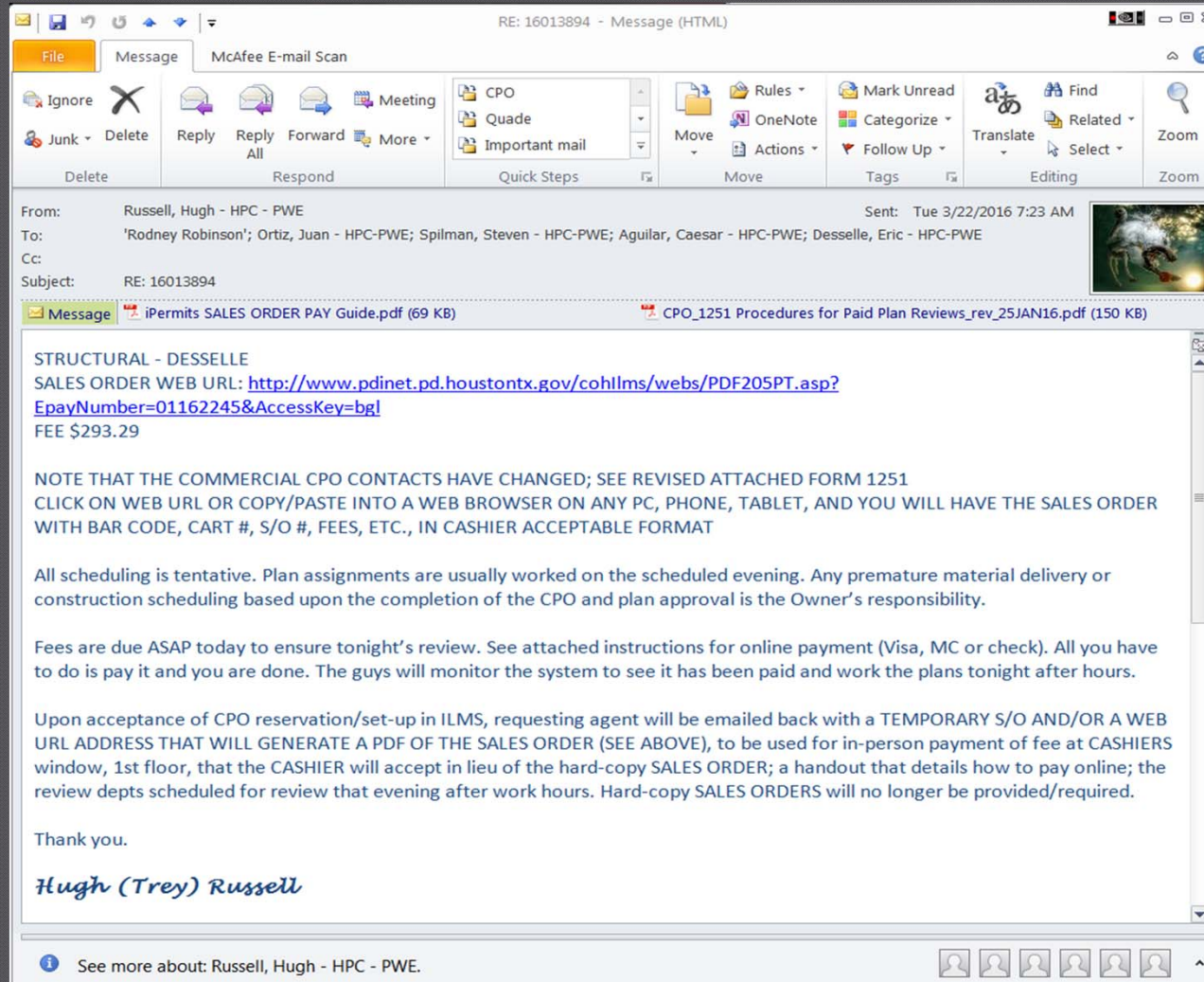
# IMPROVEMENT IMPLEMENTATION & RESULTS

---

1. ILMS modified to generate a WEB URL; this WEB URL is copied/pasted into an email response to the COH Customer regarding an ILMS project function, such as a REVISION, S9 or Customer Paid Overtime review.
2. Revised COH Policy FORM 1251 that offers guidelines to COH Customer on format of email request for the above listed Plan Review Processes/Functions and posted on COH HPC Permitting website, as well as providing as an attachment to all emails requesting information about these Plan Review processes.
3. This new SALES ORDER presentation system has received wide adoption and acceptance by Expediter/Designer and COH Staff in offering a new, more cost-effective way of doing business with the City of Houston Permitting Center.



# EXAMPLE EMAIL USING NEW PROCESS



# CONTROL PLAN

---

1. Upon approval by Building Official and commitment from ILMS Group to modify the software, generate Public Policy Change notification by the Building Official for Public Comment/Response.
2. If no objection presented by the Public, proceed with implementation of software modification.
3. Create a training document for Plan Review staff and Public Policy Change notification to Public and announce a start date for Public ability to email previously mentioned documentation for these types of Plan creation (see IMPROVEMENT PLAN/RESULTS slide for dates).
4. Verify understanding of Plan Review staff regarding new policy, such that there are minimal errors or misunderstandings about the scope of the change and what types of plans qualify for this new process. After ascertaining this understanding and achieving implementation date, begin using new functionality in Plan Review.



# LESSONS LEARNED

---

- ▣ Lessons learned during this process improvement were made evident in getting buy-in by all stakeholders, namely COH Staff involved in reviewing this P/I and getting the stakeholders to see the value of this process improvement.
- ▣ In reviewing the OLD PROCESS VS. NEW PROCESS COST COMPARISON, the value is plainly evident but it was a struggle demonstrating the strong buy-in the COH Plan Review Staff eventually received from the COH Customer when this new process was introduced to the that group.
- ▣ So, in closing, in my own Process Improvement situation, all things considered, **BUY-IN** by all stakeholders was the key lesson learned. The Process Improvement itself, the requirements needed to make it happen, and detailing the value the Process Improvement would have for a large group of COH Customers/Staff were somewhat easy to demonstrate and detail, but support from some key stakeholders who could also see my vision made this Process Improvement happen.