

Code Compliance Task Force Program Development

**Final Report
To the Building Development Commission**

February 9, 2000

**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

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**Code Compliance Task Force
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Executive Summary

The Code Compliance Task Force (CCTF) Program Development is a continuation of the effort leading to the May 12, 1999 Report to the Building Development Commission. For the last 8 months and 17 meetings, the Task Force has addressed the details required to implement the program concepts incorporated in the 5/12/99 report. The goal of this effort, as with the original report, is to promote a program leading to a reduction of the construction industry's code defect rate to less than 10%.

Specific details addressed and the solutions proposed, as contained in the text of this report, are briefly as follows.

1. Identify failures which are not really failures

The Task Force proposes a summary list of code defects which legitimately should not impact a project's code defect rate, for the purposes of calculating the re-inspection fee charge.

2. Revised re-inspection fee structure

The program description, approved by the BOCC, applies the Percent Concept Fee Adjustment Schedule with a minimum/maximum charge/ credit tool to all projects large or small, residential or commercial. This program replaces the old \$50 re-inspection fee charge structure and its criteria for charges, effective 4/1/2000.

3. Communication of industry code defect rates

Operating on 2 levels, after April 2001, via the Internet, this system will provide both the industry in general and individual contractors, data on their defect rates and most common errors, on a quarterly basis.

4. Inspector failure rate report

This quarterly report will list individual inspectors' inspection failure rates on a contractor comparative basis. It will most likely be made available to contractors via the Internet.

5. Appeal process

Appeal of either a failed inspection or re-inspection fee charge will be directly to the appropriate trade chief by formal application, using an appeal form which has been adopted.

6. Establish voluntary pin number program

This tool provides interested contractors with the ability to break their code defect rates down by the superintendent, project manager or foreman. There is significant potential here to identify trades staff having difficulty with code compliance, and also focus incentives, disincentives and code defect / training data on the line level.

7. Posting of inspector daily reassignments

Communication between a contractor and an inspector is critical. This detail provides a tool for contractors to determine when an inspector is out, when “backup” inspector resources are being employed, and who is most likely covering.

8. Industry policy on basic inspection call in steps

The task force has researched the steps successful contractors use in preparing for an inspection; these are identified for each trade. The Task Force recommends trade associations adopt the appropriate trade list as best practice for both its members and the trades at large.

9. Industry training incentives

No training program will be successful without incentives, reaching through upper management and down to both the management and trade line level. The Task Force identifies possible incentive tools for adoption by the trade associations.

10. Industry trade association training outreach programs

Trade associations take the lead in industry training with the Department offering support. One serious roadblock: the vast majority of trade companies and mechanics are not association members. The Task Force suggests pro-active steps for the trade associations to reach non-association members on training opportunities.

11. Development of MDT tools

Appropriate tools are being developed by Data Processing to identify contractors with 10% failure rates (for preferred service), as well as contractors with 30% failure rates (for meetings on site). In addition, contractor tasks failing 2 consecutive inspections will be identified to effect meetings on site between the contractor and the inspector.

12. Development of code defect library

This tool seeks to create a library of information on the most common defects in each trade. Information will include the code requirement, typical error and correct installation practice. Both Internet and fax back will be used to distribute information.

13. Incorporate CFD/MCFM in code defect reporting

Neither the Charlotte Fire Department nor the Mecklenburg County Fire Marshal’s office are automated in their inspection procedures. Consequently, both currently report inspection results manually. Industry Task Force members have requested both CFD and MCFM report inspection defects in a manner similar to the trades inspectors. CFD and MCFM support making inspection results available to customers on a real time basis.

In closing, the Task Force has maintained focus on the overall goal of developing a program, which will drive the code defect rate down. At the same time, we have been mindful of the February 2, 1999 challenge to the CCTF by the Board of County Commissioners (BOCC) specifically asking us to address three issues:

- 1) A re-inspection fee structure serving as a disincentive to failed inspections
 - 2) contractor failure rates availability to the public
 - 3) Accountability for code compliance at the line level as well as management level.
- The key to successfully addressing these is attention to detail, and we believe we have met this challenge.

The program is currently scheduled to begin on 4/1/2000. The Code Compliance Task Force will continue to meet on a quarterly basis to evaluate program startup progress

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Benchmark: failures that are not really failures

Originally dated August 26, 1999, revised January 27, 2000

In the CCTF final report, Accounting Recommendations includes “assure that failures are really failures” (page 6 of the report). From July 15 through August 26, the task force meetings were focused on detailing out this topic. The following summarizes the points agreed to by participants and will serve as a benchmark of what is or is not considered to be a failure, by the CCTF.

In completing its work on this topic, the Task Force indicated the intent that items in the “Failures That Are Not Really Failures” category, should apply to the accounting in a contractors defect report as well as the re-inspection fee calculation on a project.

1. M/P Test discharged by others: Ok as is, except add "more than 24 hrs from scheduled date". See item 3 below
2. Soils Report: Re-word to say: "Final Soils report not on site at footing/inspection"
3. Test results impacted by inspection delay: it was agreed this means an inspection result (such as gas test) which is impacted by a delay in the inspection of more than 24 hours from the scheduled inspection date, and in this case is not really a chargeable failure.
4. Engineering Report Needed: All agreed the dept. should have 2 code defects for this:
 - Engineering Report needed – work may progress
 - Engineering Report needed – work may not progressFirst item above wouldn't be a chargeable defect, second item would be chargeable.
5. Survey Needed: All agreed this should stay as "Not really Failure", but;
 - Department needs to begin policy of requiring survey on site before framing starts.
6. Inadequate Engineers Report at Construction Site: All agreed this be handled the same as outlined in Engineering Report Needed above (#4).
7. Inaccessible Home Owner: Lengthy discussion, after which all agreed to the following criteria:
 - If inspection falls between requested time (8:00 am – 5:00 p.m.)
 - Or if special arrangements (appointments) are made for early, late, or Saturday
 - Or if it is an appointment with a homeowner
 - And you can't get in,...it is an 02But, if inspector shows up outside agreed time (next day, for example) it is an 03, with 03's not counting as a failure.
8. Inaccessible Site on Weekends: All agreed criteria should be the same as Inaccessible homeowner above (#7)
9. One Trades Failure owed to another Trade's Installation: All agreed to delete from list; this is a real failure.

10. Change in Code Interpretation: Lengthy discussion, after which all agreed to the following criteria:

- If code interpretation change can't be anticipated, and is put into effect immediately, it is not a chargeable defect.
But, if E&BS gives a warning or grace period for interpretation change, and item still fails, it is a chargeable defect.

11. Defect Caused by Others: Lengthy discussion regarding how you record errors on a subcontractor's inspection caused by another trade. All finally agreed to the following:

- All trades to come up with a code for these events. This code would not be chargeable to the subs individual failure rate.
- Since the builder or general contractor is responsible for the overall job, the code would be chargeable to the individual project failure rate calculation.

12. Work Damaged by Others: all agreed as follows:

- All trades need to create defect codes similar to electrical #14 "Defect Created by Others".
- As long as you can identify the damage is by another trade, it should remain a failure chargeable to both sub and project failure rates.

13. Plumbing Inspector Failed for Missing Workmen's Facilities: all agreed as follows:

- The code needs to be changed to not chargeable to plumbing subs individual defect rate, but chargeable to the project defect rate.

14. Inspector failed work that was installed per approved plans and details: all agreed this is not a chargeable defect, with limitations as follows:

- This is intended to cover situations where a plan clearly detailed work, the detail was not code compliant, this error was not caught by the plan reviewer, but was later caught by the inspector in the field.
- It is not intended to cover work not detailed on the plans and subsequently installed incorrectly. Nor is it intended to cover work that is not clear on the plans, but in the field is clearly a basic code requirement.

15. Failure of an inspection not requested: all agreed as follows:

- All agreed inspector generated routine inspections should not be a chargeable defect.
- Two exceptions were sited:
 - a) Changeout inspections where a request for one inspection is intended to cover both
 - b) Insulation inspections, where they were allowed to proceed with framing corrections needed, but those framing corrections remain incomplete.

16. When multiple inspectors work a job, and one inspector finds something that is overlooked by the previous inspection: all agreed as follows:

- The criteria agreed here was; on the re-inspection, if it's something small, it shouldn't be chargeable, but if it's a hazard, it's turned down and is chargeable.
- Exception: this would not apply to mass failures, where so many items are sited on the first inspection, that an inspector could easily miss other items (thresholds discussed have been: bldg 8, elec 6, mech 4, plbg 4).

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**Revised Re-inspection Fee Structure
Originally dated October 7, 1999, rev 10/22/99**

1. Background

In their 2/2/99 meeting, the BOCC challenged the Code Compliance Task Force (CCTF) to study whether the current re-inspection fee structure and process serve as a disincentive to failed inspections and if not what changes should be made? After a lengthy evaluation, the CCTF concluded, and noted in its final 5/12/99 report, the data clearly indicates the existing re-inspection fee structure contributes to an increased code defect rate. The Task Force subsequently recommended replacing the current re-inspection fee structure with the “Percent Concept” contained in that report.

In proposing a new re-inspection fee structure, the CCTF responded to key elements in it’s financial strategy including:

- Provide a system of incentives and disincentives encouraging reduction in failure rate
- Provide an incentive to produce code compliant construction
- Be equitable, work for both big and small contractors and touch all of them
- Have an impact on the front line work force
- Use the market to distribute incentives and disincentives.

Over the last 3 ½ months, CCTF Program Development has addressed the details of the new re-inspection fee structure through lengthy discussions and study of various cases and examples. The result is a minimum/ maximum charges or credits component, agreed to for both big and small projects, which facilitates the Percent Concept’s alignment with the above key 5 points.

2. Proposal

Continuing with the logic in its 5/12/99 report, the CCTF proposes replacing the current re-inspection fee portion of the Building Development fee ordinance. The new re-inspection fee structure would be based on an evaluation of each project with regard to the project code defect rate (failed inspections/total inspections for all disciplines), at project completion and issuance of the Certificate of Occupancy (CO). The projects code defect rate would be compared to the Percent Concept Fee Adjustment Schedule and, prior to issuance of the CO, either a charge or credit would be calculated based on the original permit fee, and applied to the general contractor’s account.

The Percent Concept Fee Adjustment Schedule, as revised by the BOCC in their 5/18 meeting, is as follows:

<u>Code defect % failure (Less than or equal to)</u>	<u>% fee adjustment</u>
0	-20
10	-10
15	0
20	+5
25	+10
30	+20
35	+30
40	+40
50	+50

The preceding Fee Adjustment Schedule would be applied to projects, with limits to minimum and maximum charges or credits as follows:

1. Small projects (less than or equal to a \$100 permit fee or \$10,000 construction value)
 - Charges: by % on fee adjustment schedule
 - Minimum charge: not less \$25 per permit
 - Maximum charge: no maximum
 - Credits: no credit given

2. Large projects (greater than a \$100 permit fee or \$10,000 construction value)
 - Charges: By % on fee adjustment schedule
 - Minimum charge: no minimum
 - Maximum charge: not more than \$90 per failed inspection
 - Credits: By % on fee adjustment schedule
 - Minimum credit: no minimum
 - Maximum credit: to be calculated as follows:
 - credit = (a-b) x \$90, where
 - “a” is 30% of total inspections
 - “b” is the number of inspections failed
 - difference times \$90 per saved inspection

The new re-inspection schedule will be applied to all projects, large and small. The primary responsibility, or conduit, for charges and credits will be as follows.

- Whoever applies for and pays for the permit will receive any fee adjustments at issuance of CO, completion of the work or closeout of the job. These contractors will be responsible for the project inspection failure rate of all sub-contractors working on the project.
- For projects with multiple trades but no general contractor, a lead contractor, responsible for all subcontractor's code defect rates and any fee adjustment, will be assigned from the attached Small Project Lead Contractor Schedule.
- On Commercial projects with multi-primers, where some work is beyond control of the permit applicant, the general contractor and other prime contractors will have individual code defect rate responsibility, unless they agree otherwise.
- The reports will be based on code defect performance on the structure (per house, per project, etc) at the completion of the work (typically the Certificate of Occupancy stage).
- For all other conditions not prescribed herein, the Director will propose responsibility for charges and credits after consulting with the Code Compliance Task Force.

The Task Force proposes the program will begin immediately for the purpose of notification of all project failure rates. The Task Force further proposes the new re-inspection fee schedule go into effect for all permits issued on or after April 1, 2000, assuming all the requisite fee ordinance changes have been approved by the BOCC and the appropriate IST programming is in place.

3. Benefits

- The proposed program provides incentives for those contractors who minimize the use of inspectors' time to verify code compliant construction, in terms of credits applied to a contractors account (effectively reduced permit fees).
- Conversely, disincentives, up to and including a 50% increase in a project's permit fee, will be levied against those contractors whose projects produce code defect rates above 15%.
- Together, incentives and disincentives should conserve inspector time and reduce our trades inspection workload.

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Industry Code Defect Rate Reports

December 16, 1999

Communication of defect rates is a critical tool in the CCTF overall goal of driving the code defect rate down to 10% or less. To that end, the CCTF proposes establishing two contractor defect reports as follows:

1. Trade wide defect rate report

This report would be generated on a quarterly basis and posted on the Internet. Report content would include the following.

- Summary report highlighting the top 10-20 defects in each trade
- Defect code list for each trade
- Detail in each trade of the number and types of defects occurring in each task

The report format would be similar to the code Compliance Report issued to the BDC over the last two years, and used extensively by the CCTF for the last 18 months. The report would be programmed to be downloaded either wholly or by each of the above parts.

2. Individual contractor defect rate report

This report would also be generated on a quarterly basis and posted on the Internet. Report content would include the following.

- Contractor's overall defect rate
- Contractor's number of total inspections and inspections failed
- Breakdown of contractor's data by project classification
- Industry overall defect rate for that trade
- Contractor standing in the overall industry code performance by 3rds
- Top 5 technical code defects for the contractor

A sample of the report format agreed to by the CCTF is exhibited on the following page.

The reporting dates will be based on calendar quarters, that is reporting periods of January through March, April through June, July through September and October through December.

As directed by the Board of County Commissioners, this reporting system will begin one year after the program start, on April 1, 2001.

**CHARLOTTE-MECKLENBURG ENGINEERING & BUILDING STANDARDS
CONTRACTOR FAILURE RATE REPORT**

FOR: NOVEMBER 1999

CONTRACTOR: JOHN DOE CONTRACTING INC.

CONTRACTOR TYPE:

BUILDING

ACTIVITY TYPE BREAKDOWN:	Code Related	Non-Code Related
15% Residential Renovation & Other		
TOTAL INSPECTIONS:	10	7
TOTAL INSPECTIONS FAILED:	23%	16%
CONTRACTOR AVERAGE FAIL RATE:		

ACTIVITY TYPE BREAKDOWN: 55% Residential New 1 & 2 Family Construction

TOTAL INSPECTIONS:	40	25
TOTAL INSPECTIONS FAILED:	12%	07%
CONTRACTOR AVERAGE FAIL RATE:		

ACTIVITY TYPE BREAKDOWN: 30% Commercial MF/Condo

TOTAL INSPECTIONS:	70	05
TOTAL INSPECTIONS FAILED:	56%	04%
CONTRACTOR AVERAGE FAIL RATE:		

Note: Non-Code related defects are defined as administrative failures not impacting the technical requirements of the code (ie; no access to site, change of contractor etc.)

TOP FIVE CODE RELATED DEFECTS:

- | | | |
|-------------|---------|--|
| (1) FRAMING | CODE 11 | FIRE STOPPING/DRAFTSTOPPING |
| (2) FRAMING | CODE 31 | ENGINEERED ROOF DESIGN, INSTALLATION, REPAIR |
| (3) FINAL | CODE 14 | FLASHING CAULKING |
| (4) FRAMING | CODE 39 | IMPROPER NAILING |
| (5) FOOTING | CODE 18 | NEED SOIL COMPACTION TEST |

INDUSTRY AVERAGE FAILURE RATE: 32%

CONTRACTOR FAILURE RATE STANDING IN TRADE

XXXXXXXXXXXXXXXXXX	1		
LOWEST FAIL RATE	1/3	1/3	HIGHEST FAIL RATE

Note: Contractors with a lower failure rate would typically have fewer code defects on a project.

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Inspector Failure Rate Report

July 14, 1999

The CCTF believes it will be beneficial to report inspectors' failure rates as well as contractors'. Reports will be made available on a quarterly basis, beginning on April 1, 2001. Inspector failure rates will be reported using a "per contractor" basis format as outlined on the following page.

11.

1999-06-07

CHARLOTTE-MECKLENBURG BUILDING STANDARDS

PAGE 1

BSTXXXX

CONTRACTOR FAILURE RATE COMPARRISON BY INSPECTORS

FOR: 10/01/99 THRU 12/31/99

RESIDENTIAL CONTRACTORS

CONTRACTOR	TRADE	TASK	CONTRACTOR		INSPECTOR COUNTY WIDE % FAILED
			# FAILED	% FAILED	
ABC Contracting					
101 GENE MORTON	BU	FD	1	30	25
		FI	5	49	43
		FR	4	22	22
		IN	1	19	23
	INSPECTOR	ALL	11	30	28
109 JERRY IRVIN	BU	FI	50	10	15
		FR	33	52	48
		FT	54	43	47
		IN	21	12	12
		SL	38	19	18
	INSPECTOR	ALL	196	40	28
110 ROBERT RICHARDSON	BU	FD	49	30	25
		FI	58	49	43
		FR	71	22	22
		IN	24	19	23
	INSPECTOR	ALL	202	44	28
115 STEVE HONEYCUTT	BU	FI	55	10	15
		FR	34	52	48
		FT	32	43	47
		IN	12	12	12
		SL	30	19	18
	INSPECTOR	ALL	151	38	28
ABC CONTRACTING			ALL	560 (1)	28 (2)
					23 (3)

Footnote:

- (1) Total inspections failed for this contractor
- (2) Average % failed for this contractor
- (3) Average for above inspector(s) countywide

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Appeal Process

July 14, 1999

Recognizing that disagreements occur on both code interpretations and field conditions, the task force agreed to a simple appeal process. While the Department encourages communication between the contractor and CEO regarding failed inspections, it is anticipated appeals will most often be used to address failed inspections impacting a contractor's project failure rate and subsequently, the final project fee adjustment by the re-inspection fee program.

Appeal will be direct to the trade chief of the issue or discipline in question.

Inspection appeals may only be submitted on the approved form (see following page), with all relevant information provided. Appeals must be submitted within 10 working days of the inspection date. An appeal decision will be made within 10 working days of receiving the written appeal.



Inspection Appeal

Your Name: _____ Date: _____

Company Name: _____

Business Address: _____ City: _____

State: _____ Zip: _____ Phone Number: _____

Project Name: _____ Permit Number: _____

Project Address: _____

Code Section: _____ B E M P

Project Name: _____ Date of Inspection: _____

Code Requirement: _____

Nature of Appeal: (In DETAIL, why you believe installation was code compliant) _____

Decision: _____

Date: _____

Code Administrator: _____

Fax to: 336-2464 OR E-mail: Code Administrators Building: mortolg@co.mecklenburg.nc.us

Electrical: harvewg@co.mecklenburg.nc.us

Mech/Plbg: edwarpb@co.mecklenburg.nc.us

Notice: Inspection appeal must be submitted within 10 working days of the inspection date. The appeal decision will be rendered within 10 working days of receipt of the written appeal.

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Voluntary PIN number program

August 26, 1999

As the CCTF developed the program concept, several builders indicated a need to take code defect reporting beyond the contractor (company) level, and closer to the line level. The builders believe it would be beneficial to breakdown contractor code defect rates into subgroups for various project managers or superintendents. This would allow them to both:

- a) cultivate a higher level of accountability for code compliance at the project manager / superintendent level, and
- b) focus individual code compliance training needs more effectively.

A Personal Identification Number (PIN) component in code defect reporting was proposed. While all trades representatives could not agree on this as a requirement, the CCTF did agree on this as a **voluntary** component of the program concept. Consequently, program development discussed how this might work in detail, and pursued data processing changes necessary to support a PIN program.

The Voluntary PIN Number Program would work as follows.

- All contractors would receive a single PIN number for their code defect reports
- Contractors wishing to participate in the voluntary program, would also receive multiple PIN numbers as sub groups of their overall company PIN number.
- As many voluntary PIN numbers would be provided as requested
- All inspection requests would enter a PIN number to identify the requesting party, either overall contractor, or individual project manager / superintendent.
- For contractors participating in the Voluntarily PIN Number Program, quarterly code defect contractor reports would be made available in two versions:
 - 1) the overall contractor report, in a format described in part 3 of this report, and
 - 2) a breakdown of the overall contractor report by the voluntary PIN numbers requested by the contractor, identifying the relevant code defect data for each.
- Voluntary PIN Number code defect reports will identify both the PIN number and the responsible party
- Voluntary PIN Number code defect reports will be made available to contractors by Internet, on the same reporting basis as their overall report.

The Department is currently working to have the Voluntary PIN Number Program available for contractor use on or about June 1, 2000.

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Inspector Daily Reassignment

October 7, 1999

Communication between contractors and inspectors is extremely important in the every day work in the field. If contractors are to have time critical inspection needs addressed, they must convey these needs to the inspector and have a means to communicate the particular need as extraordinary relative to other needs.

At the same time, the Department wrestles with inspector coverage on a daily basis as inspectors are absent for training, vacation, sickness, or other personal matters. Each trade in the Department has varying methods to develop the most effective coverage strategy on a daily basis. These daily strategies are typically developed and implemented from 7 to 8am. These efforts optimize the Departments use of inspection resources in the face of staff absence.

The CCTF believes it will be a significant benefit to make these strategies available to contractors on a daily basis. Since telephone is more widely used and readily changeable on a daily basis than the Internet, this will be the medium used. To that end, the Department will pursue establishing the following Inspector Reassignment Information System.

- A dedicated phone number or numbers will be obtained to service this need.
- The customer will gain access to a daily recording, listing:
 - a) absent inspectors by number
 - for example “building inspectors out: 118 & 105”
 - b) coverage strategies for each inspector
 - for example “106 & 107 get 118’s work”, “ 104 gets 105’s work”, etc
 - c) where teams are used (in mechanical and plumbing), the message will summarize the team members responsible for the absent inspector coverage, or other special arrangement for floaters or part time staff use
- listings will be changed on a daily basis between 7 and 8 am

The Department intends to activate this system no later than April 1, 2000.

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Industry Basic Inspection Call In Steps

December 16, 1999

Historically, some contractors have done superior work in delivering code compliant construction for inspection. Over several meetings, the task force considered various steps successful contractors use in preparing for an inspection. It was agreed there are several large scale proactive management steps a contractor may pursue to improve compliance, including the following.

- Use checklists to verify completion of any phase of a trades work
These tools are typically developed in house by the contractor. They are circulated among key project staff and provide a common understanding/expectation of what is a complete product in any phase. These serve as the foundation in the ethic to deliver and check for completion of work.
- Use checklists to verify attention to code items
Same as above, but these focus on those items relating to code compliance, which an inspector will be looking for. The Task Force has solicited lists for each of the trades and they are included in the following pages.
- Research top 10 defects
The use of defect codes has allowed us to identify the most common code errors made in each trade. Making these lists available to key field personal heightens there awareness to these defects and offers the opportunity to get it right the first time.

Similarly, the upcoming contractor code defect report will provide valuable information on a quarterly basis on a contractors own list of most common defects. These will be even more valuable in the field than the current generic list

- Use the pin number system to identify pm/supt. code weaknesses
The pin number system is scheduled to come on line in June, 2000. This will allow contractors to breakdown their defect rates by pin numbers assigned to key personnel. Knowing the most common code defects of individuals will, again, allow them to focus on their weaknesses and get it right the first time.
- Emphasize obvious oversights
Administrative defects can be costly. Knowing which items will effect a turn down before an inspector is out of the truck is important information to have and act on.
- Constant reinforcement: to use tools selected from the above.

The Task Force recommends the above steps, and the following checklists to the trade associations. We encourage the associations to adopt all of the above as “best practice” construction procedures on which they expect their membership to follow through.

TRADES PRE-INSPECTION CHECKLIST

BUILDING INSPECTION CHECKLIST

Framing Inspection

- 1 All mechanical trades are complete (plumbing, HVAC, and electrical)
- 2 The roof is complete and sealed (i.e. roof boots, shingle vent, etc.)
- 3 All exterior windows and doors are installed
- 4 All openings are sealed against weather (i.e. all fireplaces must be installed)
- 5 All bearing points and pi point loads are supported properly (proper number of jacks under girders, beams down to the foundation, etc.)
- 6 All foundation straps or bolts are in place and secured properly
- 7 All fire-stopping and draft stopping is in place
- 8 All hangers and/or ledger strips are in place and fastened correctly
- 9 All engineered members are braced and fastened according to the engineered drawings
- 10 Structural sheathing is fastened per code including blocking horizontal seams
- 11 All framing members and sheathing attached per required nailing schedules
- 12 All flashing, brick, stoops, doors and windows (if required) must be in place
- 13 Permit is posted where visible from the street
- 14 Headers are installed and are properly sized and supported per code
- 15 Any damaged engineered components have been repaired according to a stamped engineered repair letter and a copy of that letter is left in the house with truss drawings and blue prints.
- 16 Approved MP or Plan review plans if required.

Insulation Inspection

- 1 Any inspector items from frame inspection are 100% completed
- 2 All mechanical trade inspections are complete
- 3 Tub and shower traps are fireblocked

- 4 All small holes in area requiring fireblocking are stuffed with unfaced insulation
- 5 All insulation baffles are in place
- 6 Cathedral ceilings and areas beneath furnace platform are batted with R-30 or greater
- 7 All side walls and floors are properly attached with correct R-Value
- 8 The (MEC check) is in the window, if used

Final Building Inspection

- 9 Blown insulation is completed with an insulation certificate card posted in the attic
- 10 Pull down stairs are installed per manufacturers' requirements
- 11 Glass shower enclosures are complete and the required tempered stamp present
 - Other tempered glazing areas must meet section 308.4 NCSB Vol. 7 for hazardous locations. (Must have labeling for identification).
- 12 Wall rails and banisters are properly installed
- 13 Garage area is properly firestopped
- 14 All exterior penetrations are sealed
- 15 All exterior wood has at least a prime coat of paint
- 16 House numbers are installed
- 17 Exterior concrete is in place and final grading, positive drainage away from the residence and landscaping are complete per Code

Re-inspections

1. **Only one rule – make sure it is ready**

This checklist is an aid in preparing a site for the CEO Inspection visit. It is not inclusive of all Code requirements. Ultimately, the contractor is responsible for his work to be code compliant as described in the full body of the NCSBC.

TRADES PRE-INSPECTION CHECKLIST

ELECTRICAL INSPECTION CHECK LIST

Saw Service

1. Location on lot
2. Length of pole
3. Meet minimum requirement for riser height
4. Secure or properly brace pole
5. Weather tight boxes and fittings
6. Panel boards and equipment are properly rated (size, service equipment)
7. All covers in place and not broken
8. Correct overcurrent protection on all circuits
9. Proper wire sizes and types
10. GFCI installed on all outlets
11. No Knockouts missing
12. All outlets installed and not broken
13. Supplemental made electrode proper size (minimum conductor size #4 Copper)
14. Supplemental ground rod proper length and size
15. Supplemental ground clamp installed properly and tight
16. Make sure you are ready for inspection!!!

Rough Inspections

- 1 Building is in the dry
- 2 Service cable is proper length
- 3 Grounding electrode conductor is installed (if required)
- 4 All boxes are installed and properly spaced
- 5 Boxes are not overloaded and properly grounded
- 6 All wire is pulled
- 7 Required number and size circuits are installed (i.e.-general lighting, kitchen, bathroom, furnace, GFCI's, etc.)
- 8 Circuits evenly divided
- 9 Smoke detector requirements are met
- 10 All grounded conductors are made up properly
- 11 All grounding conductors are made up properly

Rough Inspections (Continued)

- 12 All wire is protected (1-1/4" from face of stud)
- 13 All wire is properly supported
- 14 Cable sheathing installed as required
- 15 Repair cables damaged by other trades
- 16 Nail guards are installed (if needed)
- 17 Required clearances are maintained for lighting fixtures (recess, closets)
- 18 All materials and equipment must be **THIRD PARTY LISTED & LABELED**
- 19 Make sure you are ready for inspection!!!!

Finals

- 1 All work is complete
- 2 **ALL MATERIALS AND EQUIPMENT MUST BE THIRD PARTY LISTED & LABELED**
- 3 Meter can installed and secure to structure
- 4 All panels and meters meet minimum working clearances
- 5 All overcurrent protection is installed and properly labeled
- 6 Supplemental grounding conductor installed and sized properly (minimum #4 Copper)
- 7 Supplemental ground rod proper size and length
- 8 Supplemental ground clamp proper size, type, and secure
- 9 All grounding electrode conductor are properly installed and sized
- 10 All equipment is properly installed and connected
- 11 All fixtures are installed and properly grounded
- 12 All devices and covers are completely installed
- 13 All GFCI devices are working properly
- 14 Proper continuity on all devices
- 15 **BE SURE YOUR JOB IS READY FOR INSPECTION AND ACCESSIBLE!!!!**

This checklist is an aid in preparing a site for the CEO Inspection visit. It is not inclusive of all Code requirements. Ultimately, the contractor is responsible for his work to be code compliant as described in the full body of the NCSBC.

TRADES PRE-INSPECTION CHECKLIST

MECHANICAL INSPECTION CHECKLIST

Slab

- ◆ Plans on Job site (Com)
- ◆ Duct Sealed
- ◆ Duct Support
- ◆ Dryer Duct Clearance
- ◆ Refrigerant Line Sleeve
- ◆ Minimum Coverage

Piping Service/Gas Test

Piping Service

- ◆ Proper Fittings
- ◆ Proper Gas Pipe Sizing
- ◆ Notching Requirements
- ◆ Pipe Protection
- ◆ Pipe Support/Anchoring
- ◆ Smoke/Fire Stopping
- ◆ Seismic Requirements

Gas Test

- ◆ Pressure Test

Rough

- ◆ Plans on Job site (Com)
- ◆ Boots Insulated
- ◆ Duct Support
- ◆ Duct Clearance
- ◆ Duct Radius
- ◆ Duct Sealant
- ◆ Returns
- ◆ Dryer Exhaust
- ◆ Appliance Vent Type
- ◆ Appliance Vent Clearance
- ◆ Smoke Detectors (Com)
- ◆ Fire Dampers
- ◆ Seismic Requirements (Com)
- ◆ Energy Requirements

Final / CO.

- ◆ Furnace Complete
- ◆ Ladder to equipment?
- ◆ Mfg. Instructions on job site
- ◆ Gas Piping Complete
- ◆ Gas Test Complete
- ◆ Smoke Detectors (Com)
- ◆ Registers
- ◆ Filters
- ◆ Minimum Fixture Clearances
- ◆ Handicap Requirements
- ◆ C/O's to Grade
- ◆ Condensing Units Complete
- ◆ Condensate Drains
- ◆ Misc. Equipment Complete
- ◆ Insp. Scheduled (E&BS/Owners)

Temporary Utilities

- ◆ Structure Dried In
- ◆ Structure Secure (Doors/
Windows)
- ◆ Gas Test
- ◆ Equipment Set
- ◆ Equipment Flu Complete
- ◆ Filters Installed

Temporary C/O

- ◆ Structure Dried In
- ◆ Structure Secure (Doors/
Windows)
- ◆ Gas Test
- ◆ Equipment Set
- ◆ Equipment Flu Complete
- ◆ Filters Installed

This checklist is an aid in preparing a site for the CEO inspection visit. It is not inclusive of all Code requirements. Ultimately, the contractor is responsible for his work to be code compliant as described in the full body of the NCSBC.

TRADES PRE-INSPECTION CHECKLIST

PLUMBING

INSPECTOR CHECKLIST & SLAB DEFECT CODES

Slab

1. Plans on Jobsite (Com'l)
2. Water Test
3. Minimum Grade
4. Proper Fittings
5. Proper Waste Pipe Sizing
6. Proper Venting
7. Minimum Coverage
8. C/O's
9. Pipe Support
10. Proper Water Pipe Sizing
11. Proper Water Pipe Installation
12. Foundation/Slab Sleeving

Dwv / Water Distribution

DWV Rough

1. Plans on Jobsite (Com)
2. Water Test
3. Minimum Grade
4. Proper Fittings
5. Proper Waste Pipe Sizing
6. Proper Venting
7. Minimum Fixture Clearances
8. C/O's
9. Pipe Protection
10. Pipe Support
- 11. Seismic Requirements**

Water Distribution

1. Pressure Test
2. Proper Fittings
3. Proper Water Pipe Sizing
4. Pipe Protection
5. Pipe Support/Anchoring
6. Unconditioned Space
7. Backflow Requirements
8. Seismic Requirements

Sewer /Water

Sewer Service

1. Minimum Size
2. Minimum Grade
3. Minimum Depth/Protection
4. Minimum C/O's
5. C/O's to Grade
6. Support/Foreign Material

Water Service

1. Minimum Size
2. Minimum Depth/Protection
3. Support/Foreign Material
4. Foundation Sleeve
5. Meter Connection
6. Backflow Requirements

Final / Co

1. Pressure Reducing Valve?
2. Proper Fixtures (Com/Res.)
3. Fixtures Level & Secure
4. Minimum Fixture Clearances
5. Handicap Requirements
6. C/O's to Grade
7. Water Heater Complete
8. T&P/Pan Drains
9. Backflow Requirements
10. Unconditioned Space/Insulation
11. Misc. Equipment Complete

Tco

1. Minimum Fixtures (Res.)
2. Restrooms Complete (Com)
3. SW/WS Complete (ALL)
4. Roof Drains Complete
5. Backflow Requirements

This checklist is an aid in preparing a site for the CEO Inspection visit. It is not inclusive of all Code requirements. Ultimately, the contractor is responsible for his work to be code compliant as described in the full body of the NCSBC.

**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

Industry Training Incentives

January 27, 2000

The Task Force discussed this issue very candidly. There was a general consensus that the lack of training springs from a number of sources. A tight labor market and employee demand minimizes individual concern over training, as well as some contracting companies willingness to invest in training. A general public lack of awareness for the value of skilled mechanics is also a hurdle. In the end, unless the line employee is required to train, either initially or on a continuing basis, they will not pursue it.

With the foregoing in mind, the Task Force recommends the following short and long term strategies on training incentives.

Short Term Initiatives

- **Journeyman's CEC:** in the mechanical, electrical and plumbing trades, revise the local ordinance to require a minimum number of hours of continuing education credit (CEC) training per year to renew a journeyman's card
- **Publicize the best contractors:** make a summary list available to the public of all contractors in all disciplines who meet or exceed the goal of 10% code defect rate.

Long Term Initiatives

- **Local authority:** pursue a state legislative initiative to allow Mecklenburg County to create a local program, similar to the journeyman's card, in the building trade discipline, perhaps a "builder's card". After the initiative is in place, shape the program to include a continuing education credit (CEC) training requirement annually to renew the builder's card.
- **Public awareness:** if there is demand for skill, there will be incentive to train. The trade associations should develop a joint public campaign emphasizing the value of code compliance. The public must value training by their consumer habits, as must the industry.

Driven by public demand, there would be more need for formal training

- **CPCC long term agreement:** the seven major trade associations should pursue an agreement with CPCC to provide the full range of training needs for the associations collectively. If an effective agreement cannot be reached, pursue the Contractors Academy concept outlined below.
- **Contractors Academy:** an Industry initiated joint training program providing a full range of training courses for all disciplines. Facilities would be provided at low, or no cost by HBA, E&BS and MCGA. Instructors would be assembled from the manufacturing industry, local experts and E&BS. Curriculums would be shaped by each trade association, but would probably including the following, and more
 - introduction to a discipline; novice training
 - advanced discipline training; preparation for card exams
 - new materials or installation methods; by the manufacturers
 - code compliance in your discipline; by E&BS
 - building a quality house (or office, etc)

Ideally, training completion would be in stages and lead towards a range of certificates or proficiency levels, which would be recognized by the public and demanded in the long term, if not immediately.

**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

Industry Training Outreach Programs

January 27, 2000

A significant roadblock to any training program is the low membership level in the local trade associations. While the associations are the only local voice for the industry, it is estimated they represent only 15% (or less) of contractors in the field. Obviously if training is to reach the line level on a broad basis, an effective outreach program is a key element.

Compounding the problem is the nature of the local trade associations. Only two of the seven have full time staff, the others being driven by volunteers. Consequently, there is a shortage of available staff hours to devote to either training or outreach.

Nonetheless, the Task Force felt there were positive steps, which could be taken to effect training on a far wider basis than currently exists.

1. Be Ready:

In all likelihood, the new Re-inspection Fee Program going into effect 4/1/2000, and the publication of contractor defect rates on 4/1/2001, will create demand for training among all contractors, whether in trade associations or not. This is both an opportunity and a responsibility for the trade associations collectively.

Since the industry has over 24 months of code defect data in hand for each discipline, they have some idea of the specific defect areas in which training is needed the most. The trade associations and HBA/MGCA should prepare courses to offer in response to the anticipated industry wide demand. The range of the courses could be expanded later in response to user feedback. E&BS should be prepared to provide trainers for code compliance issues.

2. Industry Training Leader:

Currently, there is no focal point for training among the associations. Consequently, the vast majority of training occurs on an individual shop basis. While this is laudable, it can not effectively address the scale of training need as it currently exists in Mecklenburg County's construction industry. The task force believes there is a displayed need for a joint training effort among all trades. This could best be addressed by the trade associations and HBA/MGCA joining together to create a training leadership position; a position in charge of making training courses happen among all trades, and to all construction mechanics, whether association members or not. The training leader would answer to a training committee of association representatives.

Some tasks, which could be assigned to this role, include the following:

- Identify areas of training need in all disciplines
- Negotiate with training providers (manufacturers, local experts, E&BS) to develop specific courses
- Develop individual program budgets
- Reserve classroom space
- Publicize class availability: by contractor fax/e-mail list, posting at material houses, etc
- Coordinate registration
- Assure product delivery
- Receive and evaluate feedback

Other special areas of work would include the development of a comprehensive outreach program to non-association members, as well as the development of a broad industry wide curriculum (see Construction Academy in Training Incentives).

**Code Compliance Task Force
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To the Building Development Commission**

MDT Tools and other Data Processing work

August 26, 1999

Engineering & Building Standards is one of the most highly automated code enforcement authorities in the country. As such, revisions in process inevitably entail changes in the supporting automation. The initiatives proposed by the Task Force require extensive work by Data Processing, and these have been underway since July, 1999.

Inspectors have used mobile data terminals (MDT) for 8 years. While these units have recently been replaced by laptop computers, the programming continues to emulate the MDT's. Many of the changes proposed by the Task Force impact this programming. Specific DP work required in connection with the MDT program includes the following.

- Flag jobs with a 3rd inspection on a task
Will allow inspectors to easily identify tasks requiring a 3rd inspection. The intent on these inspections, is if failing the same detail twice, it will require a meeting on site with the contractor and inspector on the third request.
- projected completion date: April 1, 2000
- Flag contractors with a 10% code defect rate or less
Will allow inspectors to easily identify contractors with a 10% or less defect rate. These contractors will be guaranteed a 48 hour inspection response time.
- projected completion date: April 1, 2001
- Flag contractors with a 30% code defect rate or less
Will allow inspectors to easily identify contractors with a 30% or greater defect rate. These inspections will require a meeting on site with the contractor.
- projected completion date: April 1, 2001

Other DP initiatives required to support the Task Force work include the following.

- Setup the voluntary pin number recording system
Discussed in detail in part 6, this will allow contractors to identify project managers and superintendents who are performing either well or poorly with respect to code defect rates.
- projected completion date: June 1, 2000
- Program changes required for the new re-inspection fee program:
The new re-inspection fee program is discussed in detail in part 2, and requires extensive programming changes. These changes are now complete and the current notification period is being used as a testing process. Final revisions will be made from 2/15 through 3/31/2000.
- projected completion date: April 1, 2000
- Separate mass failures
The Task Force continues to debate this tool. All agree identifying inspection tasks with 1 or 2 defects versus many, is valuable information. There is disagreement over what is "many" and how to use the information. Discussion continues and eventually programming changes will be required.
- projected completion date: July 1, 2000

The following page contains an overall DP status report covering other DP detail tasks. Work will continue on these projects in the coming months. The Task Force will receive updates on DP project status in the quarterly progress meetings.

November 16, 1999			
Code Compliance Task Force			
DP Task Status Summary			
task	status	due date	notes
1. MDT tools developed:			
a) flag jobs with 3rd inspection on task	due to report options back to CCTF	4/1/00	
b) flag contractors with 10% failure rate or less (at 12 months)	?	4/1/01	
c) flag contractors with 30% failure rate or greater (at 12 months)	?	4/1/01	
2. Other DP system changes			
a) task based reporting	?		
b) separate mass failures	?		still important to CCTF
c) setup PIN number recording system	?	6/1/00	
d) program changes required by percent concept	complete	11/16/99	
e) develop invoice attachment of contractor "top ten failures"	see item 4 below	4/1/01	
f) include CFD in top ten failure reporting	CFD to automate inspection records		negotiate schedule with Dave Carelock
3. Apartment permitting: Duke Power notification tools	identifying DP program'g req'd	1/1/00	Duke Power notification tools
4. Individual contractor defect report:	identify program'g req'd for options	4/1/01	review with CCTF 11/18
5. Inspector failure rate report	?	4/1/01	reporting format agreed to
6. Telephone system inspector status report	?	asap	see 11/15/99 e-mail to overcash/walker
7. Fax back library system	?	asap	CCTF agreed to concept 11/4
8. Other			
a) IRIS top ten message on hold	?	asap	to be industry wide failures
b) web site top 10 trade wide lists	?	asap	to be industry wide failures

**Code Compliance Task Force
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Code Defect Library

November 4, 1999

Development of the Building Trades Code Compliance Report for the BDC and CCTF, has many secondary benefits. Among these is the ability to focus on technical code defects which a trade as a whole, repeats on a consistent basis. These clearly stand out in the 7 reports issued to date. The question is how to address them.

While organized training, a significant part of the CCTF May 12 report, is a long term solution, the Task Force feels there is a role to be played by other means. In short, we should be able to provide quick access to code information on particular defects. To that end, the Task Force proposes establishing a Code Defect Library.

The Code Defect Library would work as follows.

- Initially the top 10 to 20 technical code defects in each trade would be targeted for development of code information sheets.
- Eventually, code information sheets on other less frequent code defects would be developed, if either the industry or the department feels this topic is a priority.
- Code information sheets on each defect would include:
 - a) the relevant code section or a verbatim excerpt from it
 - b) any commentary available explaining the code section, what it means or where it comes from and any related specific requirements,
 - c) common installation errors
 - d) drawings of correct installation methods, if available
- See the following page for an example code information sheet

Ideally access to the Code Defect Library will be both by Internet and telephone fax back.

- The Code Defect Library will be posted on the Internet as soon it reaches 85% status, hopefully in the spring of 2000.
- The Department will pursue establishing a separate fax back Library access system by telephone, at the earliest opportunity. In order to preclude slowing down other existing systems, such as IRIS or the telephone system, fax back will be set up as a separate entity.

The Department is currently discussing working with Central Piedmont Community College to develop the code information sheets as a joint project.



Code Information Sheet

Mecklenburg County Engineering And Building Standards

Code:

906.4 SIDE INLET

Side inlet closet bends are permitted only in cases where the fixture connecting thereto is vented and in no case shall the inlet be used to vent a bathroom group without being washed by a fixture.

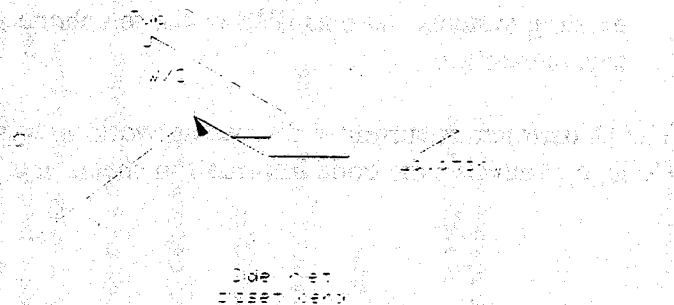
Commentary:

This requirement is illustrated by Figure 9-24, which shows the use of a side inlet closet bend in a system of venting for a bathroom group. Without the wash from a fixture, the side inlet vent would become ineffective in a short period of time.

Common Installation Errors:

- Dry vent attached to Side/Heel inlet 1/4 bend.
- Unvented fixture attached to side/heel inlet 1/4 bend.
- Attached fixtures exceed fixture unit value.

FIGURE 9-24



**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

CFD and MCFM in Defect Rate Reporting

December 16, 1999

Contractors deal with a wide range of inspection types through the lifetime of a project. While the trades inspections are usually considered the time critical driver in a schedule, inspections by the Fire Marshal's office are also of key concern with respect to both time and public safety.

The Task Force has reviewed how best to integrate both the Charlotte Fire Department (CFD) and Mecklenburg County Fire Marshal (MCFM) offices inspection services into the drive to lower code defect rates. Currently, neither office is integrated in the construction inspection reporting system. Subsequently, neither CFD nor MCFM inspection results are included in the quarterly code defect reports circulated to the Building Development Commission and the industry at large.

1. Peculiarities of FM inspections

CFD reviewed with the Task Force the peculiarities of Fire Marshal (FM) inspections in contrast to the trades inspections, including the following.

- Fire Marshal (FM) usually is called last
- Many contractors ask for preliminary FM inspections to gauge their readiness
- FM always asks for test reports
- FM usually has acceptance testing at the end, which identifies additional problems
- As a result, FM inspections fail a lot, but rarely hold up construction or Certificates of Occupancy
- Currently, there is no connection between a failed FM inspection and added fees

Considering the above points, both CFD and MCFM believe there is little to be gained by integrating their inspection results in the code defect reporting system proposed by the Task Force. Similarly, CFD and MCFM would be excluded from the re-inspection fee structure.

2. CFD/MCFM automation status

It should be noted both CFD and MCFM are pursuing automation of the FM inspection process, specifically including the following.

- Both are pursuing use of laptops for field inspection records, tied into a real time reporting system:
 - MCFM targets for operational status next spring
 - CFD status is dependent on budget support
- Reporting would be tied into a fire service records management program
 - Inspection would be one of several components in the system
- The FM reporting system would be separate from the LDCR reporting system

- The long term goal is to make FM inspection results available to customers on a real time basis by electronic access

3. Most common CFD/MCFM failure points

In the absence of an automated inspections reporting system, CFD and MCFM have identified the following as the most common failure points on certificate of occupancy inspections.

- 3.1 Life safety systems acceptance test failures (could be partially remedied by requiring submittal of fire alarm shop drawings to plan review)
- 3.2 No approved plans on site
- 3.3 No fire extinguishers in place (typically the job superintendent waits for the Fire Inspector to show them where to install fire extinguishers)
- 3.4 Required UL approved monitoring central station is not tied in to fire alarm/water flow.
- 3.5 No approved evacuation plan.
- 3.6 Street numbers not posted
- 3.7 Backflow preventor devices not installed correctly; no tampers, etc.
- 3.8 New hydrant not tested or installed properly
- 3.9 Blocked, missing or painted sprinkler heads
- 3.10 Occupancy placards in place of assembly not issued (the present arrangement requires the building inspector to determine the occupancy load in new construction and the fire inspector handles existing)

**Code Compliance Task Force
Program Development Final Report
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Appendix

The Task Force referred to the original 5/12/99 report throughout the 8 month program development period. The meeting notes and member list are included for future historical reference, as well as to provide background on the logic behind CCTF decisions and recommendations.

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<u>INDUSTRY/PUB</u>	<u>ASSOC.</u>	<u>COMPANY NAME</u>	<u>MTG #1</u>	<u>MTG #2</u>	<u>MTG #3</u>	<u>MTG #4</u>	<u>MTG #5</u>	<u>MTG #6</u>	<u>MTG #7</u>	<u>MTG #8</u>	<u>MTG #9</u>	<u>MTG #10</u>	<u>MTG #11</u>	<u>MTG #12</u>	<u>MTG #13</u>	<u>MTG #14</u>	<u>MTG #15</u>	<u>MTG #16</u>	<u>2/3/00</u>	<u>MTG #17</u>
<u>LIC</u>																				<u>TOTAL</u>
Acosta, Zeke	BDC/CHACA	Acosta Heating/Cooling																		
Austin, Greg	BDC/Public	Greg Austin & Assoc, Inc																		
Aycock, Ben	BDC/Public	Retired																		
Batten-Balas, Karen		Wood Partners																		
Blythe, Mark	Portrait Homes	Portrait Homes																		
Burns, Julian	CAECA	Quality Power Solutions																		
Calloway, Ralph Jr.	CHCCA	All Temp Co., Inc.																		
Caulder, Will	HBA	Rodgers Builders																		
Cozens, Peter		Wood Partners																		
Daignault, David	BDC/HBA	WB Moore Co. of Char.																		
Dickerson, Jim	Sm. Plumb. Contr	Jim Dickerson																		
Genda, Mitch	HBA	John Wieland Homes																		
Harden, Bill	HBA	Ryland Homes																		
Harrill, Chris	MECA	Arc Electric of POB																		
Hawkins, Daniel	CPHCCA	RT White Company																		
Houle, Marc	BDC/HBA	Yarborough & Assoc																		
Johnson, Terry	HBA	Rodgers Builders																		
Kasak, Chris	HBA	Ryan Homes																		
Kirkland, Walter	HCA	Kirkland AC/Htg Co.																		
Lewis, Drew	NARI	Renfrow Tile																		
Mann, Elliot	HBA	Pulte Home Corporation																		
McAdam, Bill	NARI	The Bainbridge																		
McAllister, Tony	HCCA	Quality Comfort																		
McCahan, Dan	HBA	Pulte Homes																		
Meares, Norman	Sm Mechanical	His-Way Htg & Air																		
Meurer, Robert	MECA	Shelco																		
Milner, Stuart	CHCCA	MIWEP-AIRCO																		
Padgett, Ken	CPHCCA	Service Plumbing																		
Phifer, Steve	HBA	Rodgers Builders																		
Pickler, Jamie	HCA	Pickler Heating & Air																		
Reid, Kathy	BDC-MECA	BDC/Elec Rep																		
Ring, John	NARI-NCCHIA	Carolina Home Services																		
Seigler, Jim	HCA	Comfort Design, Inc																		
Swyt, Matt	HBA	Alluring Homes Corp																		
Vandercook, Fred	HBA	Pulte Home Corporation																		
Wagoner, Ron	HBA	Rodgers Builders																		
Williams, Greg	HBA	Mulvaney Homes																		
Wolf, Alan	CPHCCA	Jim Dickerson Plumbing																		
STAFF																				
Bartl, Jim	Dir. Of Code Enforcement																			
Carter, Dale	Charlotte Fire Dept.																			
Edwards, Phil	Mech/Mech Codes Admn																			
Granson, Pat	Plan Reviewer																			
Harvell, Gerald	Elec. Codes Admn																			
Honeycutt, Steve	Bldg Inspector																			
Morton, Gene	Bldg Codes Admn																			
Nussbaum, Sheldon	Plumbing Inspector																			
Reckerd, Chris	Data Processing																			

Reed, Paul Asst. Elec. Codes Admin
Smith, Yates Bldg Inspector

Attendance Total	12	7	8	8	11	14	18	13	11	10	14	11	7	9	15	22	12	202
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Excerpt of pages 1 through 11

Code Compliance Task Force Final Report

Submitted to the Building Development
Commission
May 12, 1999

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Executive Summary

In response to a historically high inspection code defect rate, in April 1998 the Building Development Commission (BDC) requested creation of an Industry-Department Task Force to address this problem. The BDC challenged the Code Compliance Task Force to propose strategies and programs designed to drive the code defect rate down to an average of 10%.

On February 2, 1999, the challenge to the Task Force was heightened when the Board of County Commissioners (BOCC) made a similar request, specifically asking the Task Force to address three issues.

1. Does the re-inspection fee structure and process serve as a disincentive to failed inspections and if not what changes should be made?
2. Should contractor failure rates be made available to the public?
3. Accountability for code compliance should be at the line level as well as management level.

The Task Force is composed of 32 members, 22 from the industry, 9 from the Department and one from the Charlotte Fire Department. Since starting work on June 18, 1998, the Task Force held 20 regular meetings and 7 subcommittee meetings. Meeting attendance has been solid, averaging 14 members per regular meeting (7 for the industry and 7 for the department). Industry representation was predominantly composed of the Home Builder's Association as well as the Electrical, Plumbing and Mechanical trades. Collectively, the Task Force invested over 500 person hours in developing a basic understanding of how inspection and building services are provided, analyzing the problem, identifying possible solutions and formulating a consensus strategy.

Upon drafting an 85% report, the Task Force initiated a 30-day public comment period. During the public comment period, the Task Force held public hearings on March 4 in the Charlotte-Mecklenburg Government Center and on March 9 in the Building Development Center.

Over the last 10 ½ months of work, the Task Force identified several key issues, which are addressed in the full report, including the following.

- ◆ Existing data system: how we record and use code defect data must be refined.
- ◆ Communication: all agreed this is critical; the code defect problem must be understood; customers and staff must have a better, more professional relationship.
- ◆ Training: code defects are spawned by an absence of training in the codes; trade associations should take the lead aggressively initiating code training; the Department must support this effort.

In addition, in discussing incentives and disincentives required to effect code compliance, the task force agreed any effective solution must encompass both financial impact and process changes.

Beyond these key issues, the Final Report specifically addresses the points raised by the BOCC on February 2 as follows.

- ◆ Re-inspection Fee: All data clearly indicates the existing re-inspection fee structure has contributed to an increased code defect rate. The Task Force recommends replacing this with the "Percent Concept" described in the Financial Category recommendations. This concept allows each project or structure to begin fresh but ultimately covers inspection costs. In addition, other process changes are noted.
- ◆ Publishing Contractors Individual Code Defect Rates: As noted in the Operations and Financial Categories, the task force could only concur on using this as a positive tool, by publishing the best performing contractors. Alternately, the task force also agreed this could be a "Doomsday Measure", if all other strategies fail.
- ◆ Front Line Code Responsibility: The financial category recommendations contain process changes impacting management and journeyman at the line level by requiring on site meetings with an inspector in the case of either high failure rates or repetitive task failures.

The task force Final Report includes many other recommendations, which are believed to support the strategies identified in each category. Of particular interest to the BDC are the following.

- ◆ Assure code defect failures are really failures.
- ◆ Removal of the am/pm designation from inspection requests; in the current environment, am/pm is not working; instead of this promote, direct communication between the industry and inspectors.
- ◆ Publicize inspector failure rates on a contractor comparative basis.
- ◆ The Task Force work should be ongoing, with monthly meetings during the program development period and quarterly meetings after program startup.
- ◆ Code Consistency meetings should be attended monthly when there are problems between contractors and inspectors on interpretations of the code.

One of the keys to a successful program will be attention to detail in the program development period preceding the actual program start. The proposed program will require significant modification of the Department's existing Land Development and Permit Information System. In addition, process changes will be required and industry wide policies on training and pre-inspection procedures will need to be developed. Consequently, we estimate program development to require approximately 180 days, after acceptance of the program concept.

Finally, it is important to note this report is the consensus of all Task Force members attending meetings 15 through 20. As such the industry and Department are prepared to move forward together to implement the proposed program.

Final Report

To assist in the analysis of data, and in identifying possible strategies to drive the code defect rate down, the Task Force divided its work into four categories:

- Accounting
- Operations
- Training
- Financial

The analysis in these four categories comprised the majority of the Task Force work over the last 10 months.

- The Accounting category addressed how failure rate data is collected and used.
- The Operations category addressed process issues on both the industry and the department's behalf.
- Training primarily appraised how code knowledge might be strengthened in both the industry's management and line levels.
- Financial focused on incentives and disincentives that can be brought to bear on the code defect rate.

In all cases, a strategy was developed with recommendations supporting that strategy. It is important to note the recommendations are not exclusive of each other, in other words, recommendations in all four categories must be implemented if we are to have an effective strategy to drive the code defect rate down.

Accounting

Accounting Strategy:

- ◆ Data needs to be collected and reported
- ◆ Data needs to be collected fairly, consistently and measured accurately for proper assignment of incentives and disincentives
- ◆ Identify areas of improvement for training
- ◆ Flexible, compatible and credible

Accounting Recommendations:

1. Revised use and assignment of defect codes

- Continual process
- Work with trade association

2. Remove AM/PM

- Publicize, notify a minimum of three months in advance
- Outdated in the current environment
- Creates false expectations
- Appointments with inspectors only on critical inspections (encourage phone calls to inspectors)
- Publicize inspections priority list

3. Create a better system or modify the existing system to:

- ✓ ▪ Base criteria on tasks
- ✓ ▪ Separate mass failures
- Identify specifics (caller, inspector, contractor number)
- ✓ ▪ Sort better

- Assure that "failures" are really failures: (examples needed from chiefs and industry, some are foundation failure needing soils report, but copy not yet delivered to inspector)
 - Be sure time-sensitive failures don't count against you
 - Difference between inaccessible new construction and inaccessible home owners
 - Be sure the system has the ability for inspector override
- Develop circuit breaker for inspections response time impacting result
- Make the Code Defect Report directly accessible to the industry
- Work with trade association

Operations

Operations Strategy

- ◆ Identify weaknesses, areas in need of change
- ◆ Promote better communication across the board
- ◆ Establish better professional relationship between customer and staff
- ◆ Consistent information sharing, continuous pursuit of consistency
- ◆ Use of A/E: responsible for better documents and better field support on code compliance
- ◆ Timeliness of and better scheduling of inspections
- ◆ Commitment to building code-compliant construction

Operations Recommendations

1. **Expand Consistency Team to address specific defect problems**
 - Have the discussions and results be an ongoing process
 - Requires participation of Industry and E&BS
 - Periodically review inspection failure rates to see if it indicates inconsistency among inspectors
2. **Improve Communication**
 - Communication of "Top 10" failure items through:
 - Quarterly Consistency Report
 - Invoices itemized for contractor-specific items
 - Web site for trade-wide Top 10
 - Have an IRIS message "on hold"
 - Identify Top 10 industry-wide failures
 - Offer fax-back brochures with code requirement information on particular failure items
 - Add monthly account statement of each contractor's Top 10 failures
 - Build a library of brochures for Top 10 failures, or most common failures
 - Contractor access to "up-to-date" data through Internet and available to superintendent; password sensitive
 - Attach Top 10 list of defects to permits issued
 - Top 10 failures should include those identified by the Charlotte Fire Department
 - Make inspector reassignments available to the public and the industry
 - Arm clerk with accurate information using voice mail
 - Place daily territory reassignments on internet for contractor access

- Industry should have policy covering basic steps to be used in calling in inspections; these steps should assure job is ready for inspection
 - In unique situations, communicate critical schedule needs
 - Inspectors adhere to phone-use criteria
 - Department will counsel contractors with failure rates excessively high who show no sign of improvement; personal contact to identify how department can help
 - 50% will be considered excessively high, unless something else causes concern by Department or Industry
- 3. Voluntary Program: Apply Personal Identification Numbers (PIN) to journeyman's card/superintendent card for inspection data collection.**
- Trial for two years
 - Pin #'s assigned for contractor information (maybe use drivers license)
 - Revisited after two years regarding incentives/disincentives
- 4. Domsday measures (if no significant improvement in 2 years after start-up)**
- Extra trip permit
 - Pull journeyman's card and superintendent's Card
 - Public display of failure rate
 - Make re-inspection low priority
 - If a contractor/subcontractor's cumulative failure rate exceeds 50%, require 3rd party verification of inspection readiness
- 5. Code Compliance Task Force will continue to work on a quarterly basis**
- Review reports on program's progress
 - Evaluate what's working and what's not working

Training

Training Strategy

- ◆ Trade associations take the lead on training by providing program and instruction and E&BS assists by providing the data and what the data means
- ◆ Deliver data and interpretations
- ◆ Trades make commitment to training and E&BS support same
- ◆ Use Trade associations more
- ◆ E&BS encourages contractors to participate in trade associations
- ◆ Increase awareness of training needs
- ◆ Department assists; provides data and what data means; trade associations take the lead on training by providing program and instruction
- ◆ Must have multilingual component

Training Recommendations

1. **E&BS team should be available for association meetings**
 - Team should cover:
 - Top 10 defects
 - Education opportunities
 - Trade specific issues (include Charlotte Fire Department)
2. **Create incentives for training**
 - Connect requiring training with reducing disincentive; by initiating and following through on training, disincentive is deferred for specified time.
 - Training would be part of continuing education requirements and journeyman program
 - Make training available to everyone, but target training to poor performer list
3. **Use Trade Associations as the communication vehicle**
 - Tie trade associations to consistency teams; Assure trade associations' continuing participation, representing the industry.
 - Trade associations provide outreach program to non-members; primary minimum steps:
 - Disseminate quarterly/monthly reports
 - Make training programs available
 - Hold business meetings on code issues -pattern after HBA Builder's Council
 - Driven by E&BS account data
 - Use supply houses to post data
 - Do membership mailings
 - Offer associations as entry vehicle to incentives
4. **Publicize the problem as noted in Operations Recommendations #2**

Financial

Financial Strategy

- System of *incentives and disincentives* encouraging reduction in failure rate
- Incentive to produce code compliant construction
- Equitable - works both for big and small contractors and touches all of them
- Must have an impact on problem/benefit source (front line workforce)
- Distribution of *incentives and disincentives* market driven

Financial Recommendations

1. *Disincentives and incentives will always operate at the same level*
 - Through the builder or general contractor
 - Multiple prime contractor responsibility assignment will be decided by Dept. and contractors on a case-by-case basis
 - Or through the permit applicant
 - Whoever pays the permit fees
2. Replace the existing re-inspection fee structure with the following permit fee adjustment schedule:

<u>The Percent concept (<) % failures</u>	<u>% added fee</u>
0%	-20%
10%	-10%
15%	-5%
20%	0%
25%	10%
30%	20%
35%	30%
40%	40%
50%	50%

- Charged against account before CO is issued and attached to CO.
- Printout attached to CO giving all trade defect percentages/data; to include trade-specific failure cost
- Needs to be based on the structure (e.g.; per house, per project, etc)

- Needs to have minimum inspection threshold per month to apply
 - Needs to establish a minimum dollar amount and maximum dollar amount, charges or credits, per failed inspection, on a per-project basis (set later)
3. In addition to the Percent Concept, also implement the following process ideas on the following schedule.
- 3a. To be implemented immediately on program startup:
- Assure 03's (inaccessible) are not recorded as failures
 - Develop an 04 (or equivalent) for non-chargeable tasks
 - After 2 failed inspections on a task, require the project manager, superintendent or journeyman to be on site with the inspector for the inspection:
 - ◆ Require prior contractor contact with the inspector or no inspection performed.
 - Simple appeal to trade chiefs available
- 3b. To be implemented 12 months after program startup:
- Be positive: publicize contractors with cumulative defect rates at or below 10%
 - Publicize the inspectors failure rates quarterly: on a contractor comparative basis; compare inspector rates on the same contractor
 - If contractors cumulative defect rate is 10% or less, guarantee inspection in 48 hours.
- 3c. To be implemented 24 months after program startup:
- On contractors or subcontractors with cumulative defect rates of 30% or greater, require the project manager, superintendent or journeyman of the applicable trade to be on site with the inspector for the inspection:
 - ◆ Require prior contractor contact with the inspector or no inspection performed.

**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

Appendix C

Task Force Meeting Notes

The Task Force held 17 meetings during the Program Development period, from June 17, 1999 to February 2, 2000. While all acknowledged members were invited to attend, on several occasions open invitations were extended to the industry at large. Meeting attendance is summarized on the CCTF member list in Appendix A.

Summary notes from the 17 meetings follow. Where subcommittee meetings were held, their conclusions or recommendations are included in the appropriate Task Force meeting notes.

Code Compliance Task Force Program Development (CCTF) Meeting #1

June 17, 1999 Meeting 3:30 p.m. - Cornelius Conference Room

- 1.) Distributed 5/19 memo to BDC Chairman on the Mecklenburg Board of County Commissioners' (BOCC) action. (copy attached)
 - A.) Reviewed BOCC required changes to the CCTF program concept.
- 2.) Program Development meeting schedule
 - A.) Bi-weekly on a Thursday from 3:30 –5:00 p.m.
- 3.) Distributed draft of "To Do" Work List. (form attached)
 - A.) 180-day deadline
 - B.) Ron Wagoner asked to add:
 1. Form to be used in Simple Appeal to the trades chiefs; Phil Edwards, Mechanical Chief will develop
 2. Re-visit Doomsday measures for application to individual contractors
- 4.) Gene Morton, Building Codes Administrator, led discussion of minimum needs to be incorporated in Inspector Failure Rate Report.
 - A.) Includes:
 1. Separate commercial from residential
 2. Compare inspectors per contractor
 3. Show inspectors cumulative failure rate
 4. Break down by task
 - B.) Gene Morton will return with mock up for review at meeting after next (7/15)
 - C.) Jim Bartl reviewed distribution method to be used
 1. Make available by Internet and send hard copies to trade associations
 2. All agreed
- 5.) Assignments for next meeting
 - A.) **All members** review work "To Do" list to include all issues to cover
 - B.) **All members** think of as many examples as possible of "failures not really being failures"
 - C.) **Gene Morton** mock up of Inspection Failure Rate Report
 - D.) **Phil Edwards** develop form to be used for simple appeal to chiefs.
- 6.) **NEXT MEETING:**
 - A.) **July 1, 1999 @ 3:30 p.m. in the Cornelius Conference Room**

AGENDA

1. Discussion with the BDC dissenting vote
2. Brainstorm list of "Failures Not Really Failures"
3. Review with Data Processing (DP)
 - a. MDT tools
 - b. Other DP system changes



MECKLENBURG COUNTY
Engineering & Building Standards Department

May 19, 1999

James H. Boniface, A.I.A.
Building Development Commission Chair
Freeman White Architects
8001 Arrowridge Blvd.
Charlotte, NC 28273-5665

RE: BOCC action on the CCTF final report

Dear Jim,

I am writing to update you on the action taken by the BOCC on the Code Compliance Task Force Final Report. In their 5/18/99 meeting, the BOCC vote unanimously to support the program concept, with the following changes.

- 1. In the Operations category**, the Doomsday measures should be revisited 1 year after program startup if there is no significant improvement in the code defect rate.
- 2. In the Financial category**, the percent concept should be adjusted as follows:
 - on a 15% failure rate, the added fee should be 0%
 - on a 20% failure rate, the added fee should be 5%
- 3. In the Financial category**, on item 3b, add a bullet to make all contractor code defect rates readily available to the public.
- 4. In the Financial category**, on item 3c, this should be implemented 12 months after program startup.

The Task Force is tentatively scheduled to reconvene on June 17 to begin work on program development. At that time, we will advise all Task Force members of the BOCC required changes to the report and field any questions.

The BOCC also expressed concern over the lack of public and minority participation in the Task Force work to date. The Task Force has always welcomed anyone who wishes to participate in meetings. We request the BDC assist us in addressing this concern as we move into the program development period.

Please feel free to contact me if you have any questions on the above.

Yours truly,

James N. Bartl
Director of Code Enforcement

CC: Wanda Towler, Assistant County Manager
Bobbie Shields, Director of Engineering and Building Standards

June 17, 1999

Code Compliance Task Force

Program Development Period Work List

Tasks Remaining

- 1 assure failures are really failures
 - develop circuit breaker for inspector response impacting result
2. regular communication of top ten failure list
 - to the industry at large
 - to the individual contractor
- 3 make inspector daily reassignments available to customers
- 4 develop industry policy on basic inspection call in steps
- 5 develop fax back library and system for most common code defects
- 6 training incentives developed
- 7 trade assoc develop training outreach programs (training item 3)
- 8 maximum/minimum charge or credit per inspection agreed on
 - RFBA with fee ordinance amendment to BOCC
- 9 agree on reporting format for inspector failure rate
- 10 MDT tools developed:
 - flag jobs with 3rd inspection on task
 - flag contractors with 10% failure rate or less (at 12 months)
 - flag contractors with 30% failure rate or greater (at 12 months)
11. other DP system changes
 - task based reporting
 - separate mass failures
 - setup PIN number recording system
 - program changes required by percent concept
 - develop invoice attachment of contractor "top ten failures"
 - include CFD in top ten failure reporting
12. Other in general
 - IRIS top ten message on hold
 - web site top 10 trade wide lists
- 13 Revisit doomsday measures for application to individual contractors

17-Jun: 1-Jul, 15-Jul, 29-Jul, 12-Aug, 26-Aug, 9-Sep, 23-Sep, 7-Oct, 21-Oct, 4-Nov, 18-Nov, 2-Dec, 16-Dec, 30-Dec

Code Compliance Task Force Program Development (CCTF)

Meeting #2

July 01, 1999 Meeting 3:30 p.m. - Cornelius Conference Room

Guests: Data Processing – Bud Ranson, Michael Starr, Pat Donovan, Billie Collins

- 1.) *Circulated Gene Morton's mockup of Inspection Failure Rate Report*
 - A.) *Re-visit next meeting*
- 2.) *Circulated Phil Edward's draft of Simple Appeal Form*
 - A.) *Some revisions suggested; Phil Edwards will add and circulate with meeting notes*
 - B.) *Re-visit next meeting*
- 3.) *Reviewed Work List*
 - A.) *Only addition is Ron Wagoner's request: "Re-visit Doomsday Measures for Application to Individual Contractor"*
 - B.) *No other comments*
- 4.) *Generate list of examples for "Failures not really failures"*
 - A.) *Copy attached*
 - B.) *Debate at next meeting*
- 5.) *Data Processing (DP) Discussion*
 - A.) *MDT Tools*
 1. *DP discussion*
 - a. *MDT tools*
 - (i.) *DP will propose 2 or 3 different tools on these*
 - (ii.) *Chiefs would prefer on itinerary screen*
 - (iii.) *Timing: 3rd inspection on task - 1/1/00; 10% & 30% levels – 1/1/01*
 - b. *System Changes*
 - (i.) *Task Force needs to re-visit "Separate mass failures". (Is this still needed?)*
 - (ii.) *EB&S needs to discuss with CFD how they will be brought into the system*
 - (iii.) *Other items understood after discussion*
 - c. *Michael Starr agreed to DP reports on progress every other meeting (every 4 weeks).*
Next report, 07/29/99.

6.) *Assignments*

A.) All task force members:

1. Review mockup of Inspector Failure Rate Report
2. Review draft of Simple Appeal Form
3. Review list of "Failure Not Really Failures"

B.) Jim Bartl

1. Develop strategy to incorporate CFD in Data System

7.) **Next Meeting: Thursday, 7/15/99 @ 3:30 p. m.**

A.) **AGENDA**

1. **Final comments on Inspector failure Rate Report**
2. **Final Comments on Simple Appeal form**
3. **Discuss "Separate Mass failure" requirement for DP**
4. **Review list of "Failures Note Really Failures" to develop consensus on examples**

RESIDENTIAL CONTRACTORS

CONTRACTOR TRADE TASK % FAILED CONTR % FAILED COUNTYWIDE

ABC Contracting

DRAFT REPORT #1

RESIDENTIAL CONTRACTORS

CONTRACTOR	TRADE	TASK	% FAILED CONTR	% FAILED COUNTYWIDE
ABC Contracting				
101 GENE MORTON	BU	FD	30	25
		FI	49	43
		FR	22	22
		IN	19	23
		INSPECTOR ALL	30	28
109 JERRY IRVIN	BU	FI	10	15
		FR	52	48
		FT	43	47
		IN	12	12
		INSPECTOR ALL	30	28
110 ROBERT RICHARDSON	BU	FD	30	25
		FI	49	43
		FR	22	22
		IN	19	23
		INSPECTOR ALL	30	28
115 STEVE MONEYCUTT	BU	FI	10	15
		FR	52	48
		FT	43	47
		IN	12	12
		INSPECTOR ALL	30	28
ABC CONTRACTING	ALL		28	23

DRAFT REPORT #2

RESIDENTIAL CONTRACTORS

INSPECTOR	TRADE	TASK	% FAILED	% FAILED ALL CONTRACTORS
101 GENE MORTON	BU			25
GREATEST CONTRACTING CO		ALL	13	
GOOD CONSTRUCTION CO.		ALL	29	
FLY BY NITE CONTRACTING		ALL	43	
REAL GOOD CONTRACTING CO		ALL	13	
AVERAGE CONSTRUCTION CO.		ALL	29	
NOT TOO GOOD CONTRACTING		ALL	43	
TOP NOTCH CONTRACTING CO		ALL	13	
MEDIUM CONSTRUCTION CO.		ALL	29	
TERRIBLE CONTRACTING		ALL	43	

DRAFT REPORT #3

RESIDENTIAL CONTRACTORS

INSPECTOR	TRADE	TASK	% FAILED	% FAILED COUNTYWIDE		
101 GENE MORTON						
GREATEST CONTRACTING CO	BU	FT	10	15		
		FD	09	11		
		SL	43	47		
		FR	51	52		
		IN	19	18		
		FI	10	12		
		ALL	24	25		
		GOOD CONSTRUCTION CO.		FT	15	15
				FD	14	11
				SL	48	47
FR	56			52		
IN	24			18		
FT	15			12		
ALL		29	25			

Code Compliance Task Force Program Development

7/1/99

Examples of failures not really being failures

The following list was developed in the 7/1/99 Task Force meeting. As it is an initial draft, the list will be discussed in upcoming meetings in order to develop a consensus.

- M/P/ test discharged by others
- Test results impacted by inspection delay
- Soils report not on site
- Wnginweering report needed
- Survey needed
- Inaccessible homeowner
- Inaccessible site on weekends
- One trades failure owed to another trades installation
 - Example: countertop height incorrect for sink accessibility
- Change in code interpretation
- Defect caused by others
 - Example: wall moved by others
 - Example: work added by owner
- Work damaged by others
- Plumbing inspection failed for missing workmens facilities

DRAFT

APPEAL



Name: _____ Date: _____

Company Name: _____

Business Address: _____ City: _____

State: _____ Zip: _____ Phone Number: _____

Project Name: _____ Permit #: _____

Project Address: _____

Code Requirement: Vol. _____ Yr. _____ Chapter _____

Nature of Appeal: _____

Decision: _____

Date: _____

Code Administrator: _____

Fax to: 336-3839

Code Compliance Task Force Program Development (CCTF)

Meeting #3

July 14, 1999 Meeting 3:30 p.m. - Cornelius Conference Room

- 1.) *E&BS has developed a 15 minute overview of the 5/12/99 CCTF's Final Report and progress to date in the program development. Willing to take this to any trade association that is interested. Contact Jim Bartl*
- 2.) *Reviewed Gene Morton's draft of Inspection Failure Rate Report*
 - A.) *All agreed to use format in draft report #1*
 - B.) *Add column for number of failed inspections*
 - C.) *Send to M. Starr in DP*
- 3.) *Review of Simple Appeal form by Phil Edwards*
 - A.) *Add chiefs internet addresses*
 - B.) *Add inspection date*
 - C.) *Change to your name*
 - D.) *Title Inspection Appeal*
- 4.) *Discussed "Separate Mass Failures"*
 - A.) *All agreed to leave in. Will decide later what to do with it.*
 - B.) *For design purposes, trustholders of mass failures will be*
 1. *Mech/Plbg >4*
 2. *Elec. >6*
 3. *Building >6*
- 5.) *Review of "Failures Not Really failures" List*
 - A.) *M/P Test discharged by Others: Ok as is*
 1. *Add "(More than 24 hrs from scheduled date)"*
 - B.) *Soils Report: Re-word to say: "Final Soils report not on site at footing/inspection"*
 - C.) *Will be Continued Next Time*
- 6.) **Next Meeting:**
- 7.) **Thursday, 7/20/99 @ 3:30 p. m.**

AGENDA

- 1.) **Continue revising "Failure not Really Failures" list**
- 2.) **Inspection daily re-assignments**
- 3.) **Regular communication of Top Ten**
- 4.) **Develop fax library**
- 5.) **Maximum/Minute Charge/Credit**

Code Compliance Task Force Program Development (CCTF)

Meeting # 4

July 29, 1999 Meeting
3:30 p.m. – 5:00 p.m. Cornelius Conference Room

- 1.) **"Failures not really failures".**
 - A.) Three items discussed:
 1. Engineering documentation needed
 - a. Ordered the adequate documentation, but it is inadequate or inspector questions if it is correct.
 - b. Need to discover if the #22 was installed in IRIS to flag a disapproval without penalty.
 - c. Will discuss more at next meeting.
 2. Survey needed.
 - a. Have a complete survey, but inspector feels it is incorrect.
 3. Inadequate Reports at inspection site.
 - a. Ordered the full report, but it is incorrect or inadequate.
 4. No decision made on any of the above items.
 - B.) **DP questions**
 - A.) Mike Starr received clarification regarding the types of reports the team needs for tracking failure rates.
 - B.) Chris Kasak volunteered to draft an outline of the failure rate invoice that will be attached to the C.O.'s.
 1. Elliot Mann will bring to next meeting.
- 3.) **NEXT MEETING**
 - B.) **Thursday, 8/12/99 @ 3:30 p. m.**

AGENDA

1. **Continue revising "Failure not Really Failures" list**
2. **Inspection daily re-assignments**
3. **Regular communication of Industry Wide Top Ten Defects**
4. **Develop fax back library**
5. **Maximum/Minimum Charges/Credits**

Code Compliance Task Force Program Development (CCTF)

Meeting # 5

August 12, 1999 Meeting
3:30 p.m. – 5:00 p.m. Cornelius Conference Room

Failures Not Really Failures (Discussion continues)

Engineering Report Needed

All agreed should have 2 code defects for this:
Engineering Report needed – work may progress
Engineering Report needed – work may not progress
Above item a wouldn't be a chargeable defect, Item b would.

Survey Needed

All agreed this should stay as "Not really Failure", but, Department needs to begin policy of requiring survey on site before framing starts.

Inadequate Report at Construction Site

Jim Bartl suggested this be handled the same as "A" above, Engineering Report needed. All agreed.

In accessible Home Owner

Lengthy discussion, after which all agreed to the following criteria:
If inspection falls between requested time (8:00 am – 5:00 p.m.)
Or if special arrangements (apt.) are made for early, late, or Saturday
Or if it is an apartment with a homeowner
And you can't get in,...it is an 02
But, if inspector shows up outside agreed time (next day, for example) it is an 03

Inaccessible Site on Weekends

All agreed to early criteria from "D" above

One Trades Failure owed to another Trade's Installation

All agreed to apply from list; this is a real failure.

Change in Code Interpretation

Lengthy discussion, after which all agreed to the following criteria:
If code interpretation change can't be anticipated, and is put into effect immediately, not a chargeable defect.
But, if E&BS gives warning or grace period for interpretation change, and item still fails, it is a chargeable defect.

CFD Discussion

Dale Carter described CFD's typical inspection situation

Always called last

Some contractors ask for preliminary final inspection

CFD comes back next week

CFD always asks for test reports

Usually have acceptance testing at end, which typically finds additional problems.

Bottom line, CFD inspections fail a lot, but they never hold up work; so EB&S report definitions (in 1A, these meeting notes) don't work for them

Usually takes minimum 2 CFD inspections to pass (50% min. failure rate).

No connection now between failed inspections and added fees.

Jim Bartl proposed adding 14th item to work list:

"Discuss CFD relation to % concept"

All agreed

Max/Min Charge/Credit Discussed

Jim Bartl suggested E&BS develop several hypothetical case studies of charge/credit impact on fees, covering:

Minimum fee projects

Small residential and large residential

Small commercial and large commercial and "mega" commercial

This would be reviewed by CCTF at a future meeting, as a step to arrive on actual max/min figures

All agreed

Next meeting: August 26 @ 3:30 in Cornelius Conference room

AGENDA

- 1.) **Continue revising "Failure not Really Failures" list**
- 2.) **Inspection daily re-assignments**
- 3.) **Regular communication of Industry Wide Top Ten Defects**
- 4.) **Develop fax back library**
- 5.) **Maximum/Minimum Charges/Credits**

Code Compliance Task Force Program Development (CCTF)

Meeting # 6

Thursday, September 9, 1999
3:30pm – 5:00pm @ Cornelius Conference Room

4. **Benchmark: failures that are not really failures was distributed** (copy attached)

This documents CCTF consensus developed in meetings 3 through 6 and will serve as the program description. Anyone having other ideas should submit for collective consideration in a later meeting.

5. **Percent Concept minimum/maximum charge/credit was discussed**

2A. Jim Bartl reviewed the percent concept as amended by the BOCC on 5/18

- This will replace the current re-inspection fee portion of the fee ordinance, so we are working towards submitting an RFBA to the BOCC
- Percent Concept fee adjustment schedule is as follows:

<u>Code defect % failure (Less than or equal to)</u>	<u>% fee adjustment</u>
1	-20
10	-10
15	0
20	+5
25	+10
30	+20
35	+30
40	+40
50	+50

- The purpose of today's meeting is to agree on a minimum/maximum charge or credit, which applies this fee adjustment schedule to all projects large or small.

2B. Gene Morton reviewed the Department's examples of how the above fee adjustment schedule would apply to various projects (see attachment)

6. **Percent Concept minimum/maximum charge/credit was discussed**

2C. Jim Bartl reviewed the Department's proposal for minimum/maximum charge/credit as follows:

3. small projects: no credit
 4. small projects: charge by % on fee adjustment schedule
 5. large projects: charge by % on fee adjustment schedule, with a maximum charge of \$90 per failed inspection
 6. large project credit formula: to be calculated as follows:
- credit = (a-b) x \$90, where
-

- “a” is 30% of total inspections
- “b” is the number of inspections failed
- difference times \$90 per saved inspection

7. Discussion/ agreements

3A. Discussed the definition of a small project

- All present agreed a small project would be anything less than a \$100 permit fee or \$10,000 construction value.

3B. Discussed the minimum charge for small projects

- All present agreed there should be a minimum small project charge of \$25 per permit (not per failed inspection). 2C2 above should be reworded to say; “small projects: charge by % on fee adjustment schedule, but not less \$25 per permit”.

3C. No objections were voiced to the proposal for no credit on small projects.

8. Next Meeting: Thursday Sept. 23, 1999 @ 3:30pm in the Cornelius Conf. Rm.

Agenda will be:

- Complete large project discussion of minimum/maximum charge/credit
- Inspector daily reassignments
- Communication of top 10 defects
- Fax back library
- Trade association initiatives

AGENDA

1. Inspection daily re-assignments
2. Regular communication of industry-wide top ten defects
3. Develop fax back library
4. Maximum/Minimum Charges/Credits (distributed for review)

Code Compliance Task Force

PROGRAM DEVELOPMENT PRIORITIES

Due January 1, 2000

- Program changes required for implementation of percent concept
 - BSRC07C – Certificate of Occupancy Print
 - Generate permit fee adjustment based on percent failure rate
 - Report on job failure rate
 - Data extracts and database loads
 - Report of 10 most common defects overall
 - Report of 10 most common defects for a specific contractor
- Develop MDT tool to flag jobs with 3rd inspection on task

Due June 1, 2000

- Setup Pin number recording system
- Capture the contractor's superintendent for each inspection.
- Use the superintendent as a reporting level for percent failure rate reports

Due July 1, 2000

- Mass failure report
- Develop monthly invoice attachment of contractor failure report
- Report of 10 most common defects for trade (industry)
- CFD top 10 failure rate

Due January 1, 2001

- Contractor failure rate report
- Inspector failure rate report
- MDT tools
 - Flag contractors with 10% failure rate or less
 - Flag contractors with 30% failure rate or greater

CONTRACTOR NAME: ST LAWRENCE HOMES
JOB ADDRESS: 9926 CORRYSTONE DR
JOB DESCRIPTION: NEW RES/CO 8-2-99

TRADE	#	INSPCT	#	FAILED	
BU	5		2		
EL	3		0	E03710	JENKINS ELEC CONTRACTING
ME	6		2	M16640	LEWIS ANDY DAVID
ME	1		0	M17400	THULMAN EASTERN CORPORATION
PL	5		0	X25710	SOUTHERN PLBG CO
TOTAL	20		4		

FAILURE RATE	=	20.00	%
ADJ. RATE PER PERMIT	=	5.00	%
ORIGINAL PERMIT FEES	=	1,177.00	
FAILURE RATE ADJ.	=	58.85	
FINAL PERMIT FEES	=	1,235.85	

Code Compliance Task Force (CCTF) Program Development

Meeting #7

Thursday, September 9, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

9. **Benchmark: Failures That Are Not Really Failures Was Distributed** (Copy Attached)

This documents CCTF consensus developed in meetings 3 through 6 and will serve as the program description. Anyone having other ideas should submit for collective consideration in a later meeting.

10. **Percent Concept Minimum/Maximum Charge/Credit Was Discussed**

2A. Jim Bartl reviewed the percent concept as amended by the BOCC on 5/18

- This will replace the current re-inspection fee portion of the fee ordinance, so we are working towards submitting an RFBA to the BOCC
- Percent Concept fee adjustment schedule is as follows:

<u>Code defect % failure (Less than or equal to)</u>	<u>% fee adjustment</u>
2	-20
10	-10
15	0
20	+5
25	+10
30	+20
35	+30
40	+40
51	+50

- The purpose of today's meeting is to agree on a minimum/maximum charge or credit which applies this fee adjustment schedule to all projects large or small.

2B. Gene Morton reviewed the Department's examples of how the above fee adjustment schedule would apply to various projects (see attachment)

2C. Jim Bartl reviewed the Department's proposal for minimum/maximum charge/credit as follows:

7. small projects: no credit
8. small projects: charge by % on fee adjustment schedule
9. large projects: charge by % on fee adjustment schedule, with a maximum charge of \$90 per failed inspection
10. large project credit formula: to be calculated as follows:
 - credit = (a-b) x \$90, where
 - "a" is 30% of total inspections
 - "b" is the number of inspections failed
 - difference times \$90 per saved inspection

11. Discussion/ Agreements

3A. Discussed the definition of a small project

- All present agreed a small project would be anything less than a \$100 permit fee or \$10,000 construction value.

3B. Discussed the minimum charge for small projects

- All present agreed there should be a minimum small project charge of \$25 per permit (not per failed inspection). 2C2 above should be reworded to say; "small projects: charge by % on fee adjustment schedule, but not less \$25 per permit".

3C. No objections were voiced to the proposal for no credit on small projects.

12. Next Meeting: Thursday Sept. 23, 1999 @ 3:30pm In The Cornelius Conf. Rm.

Agenda will be:

- Complete large project discussion of minimum/maximum charge/credit
- Inspector daily reassignments
- Communication of top 10 defects
- Fax back library
- Trade association initiatives

**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

Benchmark: failures that are not really failures

Originally dated August 26, 1999, revised January 27, 2000

In the CCTF final report, Accounting Recommendations includes “assure that failures are really failures” (page 6 of the report). From July 15 through August 26, the task force meetings were focused on detailing out this topic. The following summarizes the points agreed to by participants and will serve as a benchmark of what is or is not considered to be a failure, by the CCTF.

In completing its work on this topic, the Task Force indicated the intent that items in the “Failures That Are Not Not Really Failures” category, should apply to the accounting in a contractors defect report as well as the re-inspection fee calculation on a project.

4. M/P Test discharged by others: Ok as is, except add "more than 24 hrs from scheduled date". See item 3 below
 5. Soils Report: Re-word to say: "Final Soils report not on site at footing/inspection"
 6. Test results impacted by inspection delay: it was agreed this means an inspection result (such as gas test) which is impacted by a delay in the inspection of more than 24 hours from the scheduled inspection date, and in this case is not really a chargeable failure.
 4. Engineering Report Needed: All agreed the dept. should have 2 code defects for this:
 - Engineering Report needed – work may progress
 - Engineering Report needed – work may not progressFirst item above wouldn't be a chargeable defect, second item would be chargeable.
 6. Survey Needed: All agreed this should stay as "Not really Failure", but;
 - Department needs to begin policy of requiring survey on site before framing starts.
 6. Inadequate Engineers Report at Construction Site: All agreed this be handled the same as outlined in Engineering Report Needed above (#4).
 7. Inaccessible Home Owner: Lengthy discussion, after which all agreed to the following criteria:
 - If inspection falls between requested time (8:00 am – 5:00 p.m.)
 - Or if special arrangements (appointments) are made for early, late, or Saturday
 - Or if it is an appointment with a homeowner
 - And you can't get in,...it is an 02But, if inspector shows up outside agreed time (next day, for example) it is an 03, with 03's not counting as a failure.
-

8. Inaccessible Site on Weekends: All agreed criteria should be the same as Inaccessible homeowner above (#7)
9. One Trades Failure owed to another Trade's Installation: All agreed to delete from list; this is a real failure.
10. Change in Code Interpretation: Lengthy discussion, after which all agreed to the following criteria:
- If code interpretation change can't be anticipated, and is put into effect immediately, it is not a chargeable defect.
But, if E&BS gives a warning or grace period for interpretation change, and item still fails, it is a chargeable defect.
11. Defect Caused by Others: Lengthy discussion regarding how you record errors on a subcontractor's inspection caused by another trade. All finally agreed to the following:
- All trades to come up with a code for these events. This code would not be chargeable to the subs individual failure rate.
 - Since the builder or general contractor is responsible for the overall job, the code would be chargeable to the individual project failure rate calculation.
13. Work Damaged by Others: all agreed as follows:
- All trades need to create defect codes similar to electrical #14 "Defect Created by Others".
 - As long as you can identify the damage is by another trade, it should remain a failure chargeable to both sub and project failure rates.
13. Plumbing Inspector Failed for Missing Workmen's Facilities: all agreed as follows:
- The code needs to be changed to not chargeable to plumbing subs individual defect rate, but chargeable to the project defect rate.
14. Inspector failed work that was installed per approved plans and details: all agreed this is not a chargeable defect, with limitations as follows:
- This is intended to cover situations where a plan clearly detailed work, the detail was not code compliant, this error was not caught by the plan reviewer, but was later caught by the inspector in the field.
 - It is not intended to cover work not detailed on the plans and subsequently installed incorrectly. Nor is it intended to cover work that is not clear on the plans, but in the field is clearly a basic code requirement.
15. Failure of an inspection not requested: all agreed as follows:
- All agreed inspector generated routine inspections should not be a chargeable defect.
 - Two exceptions were sited:
 - c) Changeout inspections where a request for one inspection is intended to cover both
 - d) Insulation inspections, where they were allowed to proceed with framing corrections needed, but those framing corrections remain incomplete.

16. When multiple inspectors work a job, and one inspector finds something that is overlooked by the previous inspection: all agreed as follows:

- The criteria agreed here was; on the re-inspection, if it's something small, it shouldn't be chargeable, but if it's a hazard, it's turned down and is chargeable.
- Exception: this would not apply to mass failures, where so many items are sited on the first inspection, that an inspector could easily miss other items (thresholds discussed have been: bldg 8, elec 6, mech 4, plbg 4).

DRAFT

FAILURE RATE FEE ADJUSTMENT EXAMPLES *(Examples in Italics created for illustration)*

PROJECT (project cost)	# INSP/# FAIL	% FAIL	% ADJUST	ORIG. FEE	\$ ADJUST	\$ PER RE-INSP
1. New Res/Deck (\$68,232)	25/12	48	+50	491.01	245.50	\$20.46
"	25/0	0	-20	491.01	98.10	N/A
2. New S/F Res (\$154,698)	13/0	0	-20	937.97	187.59	N/A
"	13/7	53	+50	937.97	468.99	\$67.00
3. New S/F Res (\$465,216)	33/13	39	+40	2241.36	896.54	\$68.96
"	33/2	6	-10	2241.36	224.14	N/A
4. New 18 unit Apt (\$1,088,187)	245/23	9	-10	3260.13	326.01	N/A
"	245/101	41	+50	3260.13	1630.07	16.14
5. New Term./Shop (\$2,727,000)	43/4	9	-10	9302.54	930.25	N/A
"	43/20	46	+50	9302.54	4651.28	\$232.56
6. New Hotel (\$3,147,822)	47/17	36	+40	7915.55	3166.00	\$186.24
"	47/2	4	-10	7915.55	791.56	N/A
7. New HiRise Steel (\$7,994,772)	24/0	0	-20	20,828.80	4165.76	N/A
"	24/10	42	+50	20,828.80	10,414.4	\$1041.44
8. Gas pack	2/0	0	-20	49.50	9.90	N/A
9. Warm Air Furn/AC	2/0	0	-20	69.44	13.89	N/A
10. Water Heater	2/0	0	-20	95.00	19.00	N/A
11. Gas Pack	2/1	50	+50	33.00	16.50	\$16.50
12. Gas Pack	5/1	20	+5	58.47	2.92	\$2.92
13. Heat Pump/Service/Meter	3/1	33	+30	49.50	14.85	\$14.85
14. Furnace/AC/Service/Meter	4/2	50	+50	33.00	16.50	\$8.25
"	4/3	75	+50	33.00	16.50	\$5.50
15. WAF/AC/Service	1/0	0	-20	33.00	6.60	N/A
"	3/2	67	+50	33.00	16.50	\$8.25
16. WAF/AC/Water heat	2/1	50	+50	33.00	16.50	\$16.50
"	3/1	33	+30	68.88	20.66	\$20.66
"	1/0	0	-20	33.00	6.60	N/A
17. WAF/AC unit	5/3	60	+50	67.44	33.72	\$11.24

Code Compliance Task Force (CCTF) Program Development

Meeting #8

Thursday, September 23, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

13. Percent Concept minimum/maximum charge/credit discussion continued

1A. Jim Bartl reviewed the small project minimum/maximum charge/credit as agreed to in the last meeting:

- a) small project definition: anything less than a \$100 permit fee or \$10,000 construction value.
- b) small project charge: charge by % on fee adjustment schedule, but not less \$25 per permit (not per failed inspection).
- c) small project credit: all agreed no credit on small projects

1B. Jim Bartl reviewed the large project minimum/maximum charge/credit as proposed by department staff at the last meeting:

- a) large projects: charge by % on fee adjustment schedule, with a maximum charge of \$90 per failed inspection
- b) large project credit formula: to be calculated as follows:
 - credit = $(a-b) \times \$90$, where
 - “a” is 30% of total inspections
 - “b” is the number of inspections failed
 - difference times \$90 per saved inspection

1C. Discussion/ agreements on large project minimum/maximum charge/credit

- a) debated whether “a” should be set at 10%, 15% or 30 %
 - several examples were studied from item 7 of fee study handout (attached), as follows:

example 1: if “a” is 30%

-with no failures, the % concept schedule calls for 20% credit = \$4165.76

-alternate calculation: 24 inspections x 30% = 7.26

failed inspections = 0

credit = $7.26 - 0 \times 90 = \$648$

example 2: if “a” is 30% and 10 inspections failed out of 24

-with 10 failures, the % concept schedule calls for 50% charge = \$10,414

-alternate calculation: failed inspections = 10

charge = $10 \times 90 = \$900$

example 3: if “a” is 15%

-with no failures, the % concept schedule calls for 20% credit = \$4165.76

-alternate calculation: 24 inspections x 15% = 3.63

failed inspections = 0

credit = $3.63 - 0 \times 90 = \$324$

- b) discussed distortion of failure rates caused by permitting by units on apartments and condo's; all agreed it's important to switch this policy to permitting by building
-

- c) discussed whether E&BS minimum/maximum charge/credit proposal will pay out more than it takes in; initially will probably generate fees, down the road may require adjusting the fee schedule to the new cost balance point
- d) All present agreed to the large project minimum/maximum charge/credit as described in 1B above.

2. Discussion of inspector daily reassignments

2A. How is it done now?

- a) Building & Electrical: message sent to light load inspectors to help heavy load inspectors, or specific coverage assignments
- b) Mechanical/Plumbing: work in 3 person teams, shifting load among themselves, so contractors generally know coverage is by one of 2 other inspectors

2B. What do contractors need to know?

- a) GIS map on inspector assignments
- b) Ability to contact to assure inspector gets in

2C. Open discussion and ideas

- a) If computer system would record transfer of job to another inspectors itinerary, customer could view change by internet
- b) Would help if inspector had would have message on voice mail referring to another inspector (if known; will work on M/P)
- c) Find some place to post tentative re-assignments for the day, at least initially in the am.
 - Invite Sheila Sommers' to the next meeting to discuss.

3. Next meeting: Thursday October 7, 1999 @ 3:30pm in the Cornelius Conf. Rm.

Agenda will be:

- a) Complete discussion of Inspector daily reassignments: daily posting of reassignments on the internet
- b) Communication of top 10 defects
- c) Fax back library
- d) Trade association initiatives, including:
 - 1) industry policy on basic inspection call in steps
 - 2) training outreach program strategy
 - 3) training incentives

Industry representatives need to begin thinking of the big issues on these three, in advance of upcoming CCTF discussions.

Code Compliance Task Force (CCTF) Program Development

Meeting #9

Thursday, October 7, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

14. Revised Re-inspection Fee Structure Percent

A draft copy of the Proposed Revised Re-inspection Fee Structure was circulated to all present. The proposal contains all details of the Percent Concept and minimum/maximum charge/credit structure as agreed to in meeting 7&8 notes.

- Greg Austin: proposed small projects be described as “...less than or equal to \$100 permit fee”. There were no objections.
- Final comments on the draft proposal will be received at the October 21 meeting.
- Tentative schedule: the final proposal for a Revised Re-inspection Fee Structure will be presented for support to the BDC on 11/10. Thereafter, it will move on to the BOCC included in a Request for Board Action.

2. Discussion of Data Processing Details

2A. Gene M described different ways to gather inspections by project into the charge/credit calculation. Since most added sub-permits on a job have high pass rates, he and Michael Starr asked CCTF to reconsider the design:

- rather than leave as individual permits to be graded on a defect rate, proposed grouping under the general or builder calculation
- no objections were voiced to the proposal
-

2B. Discussed who is the master contractor (who is responsible for all inspections performed) on small jobs such as residential equipment changeouts

- Phil E suggested it is always the contractor installing the equipment
- E&BS will propose a list of permit types, along with master contractor designation

2C. Discussed what to do on small projects without CO's if the final inspection is never called in.

- This % Concept proposal may drive incomplete jobs up, as contractors try to avoid the charge by leaving jobs incomplete.
- Greg A proposed setting a repeating trigger of “x” days with an automatic charge of \$25 if the final inspection isn't called for.
- Final comments will be received in the next meeting.

3. Discussion of Inspection Daily Re-Assignments (Continued)

Discussed the possibility of using the Internet to post daily inspector re-assignment strategy. How feasible is it?

- Sheila Sommers indicated the only problem is getting it posted on the Internet quickly, as E&BS has no control over this timing. It could happen early in the day or mid afternoon.
- Daniel H noted most contractors don't have field computers yet, so it would be better to make available by phone.

** Under the re-inspection fee structure, the lead contractor on small projects will be responsible for the project inspection failure rate for all contractors working on the project. Both cumulative code defect rates, as well as any permit fee adjustments will be assigned to the lead contractor.*

- It was agreed to pursue a phone notification format similar to “Time and Temperature” which would change daily

3. Discussion of Inspection Daily Re-Assignments (Continued)

- Typical posting discussed:
 - a) for Building and Electrical:
 - inspectors out: 105, 118 and 124
 - 104 gets 105’s work
 - 106 & 107 get 118’s work
 - 138 gets 124’s work
 - a) for Mech/Plumbing:
 - post exceptions, as above, including part time coverage and floaters
 - summarize team assignments

All present agreed this format would solve the problem.

4. Communication of Defect Rates Discussed

4A. Criteria for industry wide data:

- how often: all agreed should be quarterly
- publication format: post on Internet thought best.
 - Marc Houle and Greg Austin suggested extra steps such as handing out a 2-page summary with all permits and posting on a 2x3 notice in HMC.
- Download options should be: a) summary pages only, b) summary plus backup, c) broken out by trade

2B. Criteria for contractor individual report:

- how often: all agreed should be quarterly
- publication format: discussion began on what should be published and best format to accomplish this. To be continued in the next meeting

1. Next meeting: Thursday October 21, 1999 @ 3:30pm in the Cornelius Conf. Rm.

Agenda will be:

- e) Complete discussion criteria for reporting contractor individual defect rates, specifically what to publish and format to publish in
- f) Development of fax back library for code defects
- g) Trade association initiatives, including:
 - 1) industry policy on basic inspection call in steps
 - 2) training outreach program strategy
 - 3) training incentives

Industry representatives need to begin thinking of the big issues on these three, in advance of upcoming CCTF discussions.

** Under the re-inspection fee structure, the lead contractor on small projects will be responsible for the project inspection failure rate for all contractors working on the project. Both cumulative code defect rates, as well as any permit fee adjustments will be assigned to the lead contractor.*

Code Compliance Task Force (CCTF) Program Development

Meeting #10

Thursday, October 21, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

2. Final Review of Revised Re-inspection Fee Structure

1A. JB circulated a copy of the 10/19/99 revised draft, which incorporated changes agreed to in last meeting as well as comments by the County Attorney (copy attached). This draft had been circulated to all CCTF members by fax in advance.

- JB reviewed the County Attorneys changes. No exceptions were taken.
- It was suggested the last paragraph in section 2 should refer to “*all permits*” rather than “*all building permits*”. All agreed.

1B. Gene Morton proposed the inclusion of a notification period in the startup strategy

- It would work as follows:
- A notification period would begin ASAP, or as approved by the Assistant County Manager.
- It will be applied to all CO's issued or all final inspections, through 4/1/00
- □ It would provide information to customers regarding how the new re-inspection fee schedule will effect them when it goes into effect.
- □ The same CO information format would be provide as agreed to in earlier CCTF meetings, but a note would be added saying “this data is provided for your information to advise you of how the new re-inspection fee schedule will impact you when it goes into effect. The new re-inspection fee schedule will be applied to all permits issued on or after 4/1/00”
- □ A notification vehicle will be agreed to for projects with final inspections, but no CO.
- □ The actual start of charges and credits would be pushed back to all permits issued on or after 4/1/00.
- □ After a lengthy discussion, all present agreed to modify the last paragraph in part 2 of the proposal to the following:
- □ *“The Task Force proposes the program will begin immediately for the purpose of notification of all project failure rates. The Task Force further proposes the new re-inspection fee schedule go into effect for all permits issued on or after April 1, 2000, assuming all the requisite fee ordinance changes have been approved by the BOCC and the appropriate IST programming is in place.”*

1C. No other changes were requested to the 10/19/99 draft. It will be presented to the ACM, BDC and Board of County Commissioners as described above.

1D. Director's Note: The County Attorney requested the following changes and

The preceding Fee Adjustment Schedule would be applied to projects, with limits to minimum and maximum charges or credits as follows:

- □ Small projects (less than or equal to a \$100 permit fee or \$10,000 construction value)
- □ Charges: by % on fee adjustment schedule
- □ Minimum charge: not less than \$25 per permit
- □ Maximum charge: no maximum
- □ Credits: no credit given
- □ Large projects (greater than a \$100 permit fee or \$10,000 construction value)
 - □ Charges: By % on fee adjustment schedule
 - □ Minimum charge: no minimum
 - □ Maximum charge: not more than \$90 per failed inspection

- ☐ Credits: By % on fee adjustment schedule
 - ☐ Minimum credit: no minimum
 - ☐ Maximum credit: to be calculated as follows:
 - credit = (a-b) x \$90, where
 - “a” is 30% of total inspections
 - “b” is the number of inspections failed
 - difference times \$90 per saved inspection

2. Discussion of projects not receiving final inspection

1A. Gene M reviewed the problems surrounding projects, which never receive final inspections. His concern is the new re-inspection fee schedule will aggravate this problem. A lengthy discussion ensued, but no consensus was reached on how to address this.

- It was suggested a CCTF sub-committee be assembled to address this problem and recommend corrective steps to the CCTF. The trade chiefs will pursue this with participation by affected customers.

3. Continued discussion on communication of contractor defect rates

3A. JB reviewed criteria for industry wide report, agreed to in last meeting:

- ☐ how often: all agreed should be quarterly
- ☐ publication format: post on Internet thought best.

3B. Discussed criteria for contractor individual report:

- ☐ Greg A proposed the following information be placed on the internet on a quarterly basis for each contractor:
 - a) top 5 technical defects
 - b) contractors overall failure rate; listing number of total inspections, number of failed inspections, and defect % rate
 - c) industry overall defect % rate for that trade
 - d) where the contractor stands among all contractors in that trade: top 1/3, middle 1/3, bottom 1/3.
- ☐ A lengthy discussion followed with disagreement over whether technical data would be used by customers or be helpful to them.
- ☐ Some suggestion was made to replace technical data with numbers of types of projects (for example, sewer work, residential additions, etc). No agreement was reached.
- ☐ Topic discussion will continue here next time.

4. Next meeting: Thursday November 4, 1999 @ 3:30pm in the Cornelius Conf. Rm.

Agenda will be:

- h) Complete discussion criteria for reporting contractor individual defect rates, specifically what to publish and format to publish in
- i) Development of fax back library for code defects
- j) Trade association initiatives, including:
 - 1) industry policy on basic inspection call in steps
 - 2) training outreach program strategy
 - 3) training incentives

Industry representatives need to begin thinking of the big issues on these three, in advance of upcoming CCTF discussions.

October 7, 1999

**Code Compliance Task Force
Program Component Description**

Revised Re-inspection Fees Structure

1. Background

In their 2/2/99 meeting, the BDC challenged the Code Compliance Task Force (CCTF) to study whether the current re-inspection fee structure and process serve as a disincentive to failed inspections and if not what changes should be made? After a lengthy evaluation, the CCTF concluded, and noted in its final 5/12/99 report, the data clearly indicates the existing re-inspection fee structure contributes to an increased code defect rate. The Task Force subsequently recommended replacing the current re-inspection fee structure with the "Percent Concept" contained in that report.

In proposing a new re-inspection fee structure, the CCTF responded to key elements in its financial strategy including:

- Provide a system of incentives and disincentives encouraging reduction in failure rate
- Provide an incentive to produce code compliant construction
- Be equitable, work for both big and small contractors and touch all of them
- Have an impact on the front line work force
- Use the market to distribute incentives and disincentives.

Over the last 3 ~/i months, CCTF Program Development has addressed the details of the new re-inspection fee structure through lengthy discussions and study of various cases and examples. The result is a minimum/maximum charges or credits component, agreed to for both big and small projects, which facilitates the Percent Concept's alignment with the above key 5 points.

2. Proposal

Continuing with the logic in its 5/12/99 report, the CCTF proposes replacing the current re-inspection fee portion of the Building Development fee ordinance. The new re-inspection fee structure would be based on an evaluation of each project with regard to the project code defect rate (failed inspections/total inspections for all disciplines), at project completion and issuance of the Certificate of Occupancy (CO). The project's code defect rate would be compared to the Percent Concept Fee Adjustment Schedule and, prior to issuance of the C~, either a charge or credit would be calculated based on the original permit fee, and applied to the general contractor's account.

The Percent Concept Fee Adjustment Schedule, as revised by the BOC~~ in their 5/18 meeting, is as follows:

Code defect % failure (Less than or equal to)	% fee adjustment
0	-20
10	-10
15	0
20	+5
25	+10
30	+20
35	+30
40	+40
50	+50

The preceding Fee Adjustment Schedule would be applied to projects, with limits to minimum and maximum charges or credits as follows:

1. Small projects (less than a \$100 permit fee or \$10,000 construction value)
 - Charged: by % on fee adjustment schedule, but not less \$25 per permit
 - Credit: no credit given
2. Large projects (greater than a \$100 permit fee or \$10,000 construction value)
 - Charge: By % on fee adjustment schedule, with a maximum charge of \$90 per failed inspection
 - Credit: credit formula: to be calculated as follows:
 - credit = (a-b) x \$90, where
 - "a" is 30% of total inspections
 - "b" is the number of inspections failed
 - difference times \$90 per saved inspection

The new re-inspection schedule will be applied to all projects, large and small. The primary responsibility, or conduit, for charges and credits will be as follows.

- Whoever applies for and pays for the permit will receive any fee adjustments at issuance of CO. These contractors will be responsible for the project inspection failure rate of all sub-contractors working under that permit.
- Contractors or subcontractors receiving individual permits on a project will be responsible for the inspection failure rate for the work under that permit and any adjustments in the permit fee generated by their code defect rate.
- On Commercial projects with multi-primes, where some work is beyond control of the permit applicant, the contractor and prime subcontractors will agree with the department on the division of inspection failure rate responsibility.
- The reports will be based on code defect performance on the structure (per house, per project, etc) at the completion of the work (typically the Certificate of Occupancy stage).

The Task Force tentatively proposes the new re-inspection fee schedule go into effect on Jan. 1, 2000, assuming all the requisite fee ordinance changes have been approved by the BOCC and the appropriate IST programming is in place.

3. **Benefits**

- The proposed program provides incentives for those contractors who minimize the use of inspectors' time to verify code compliant construction, in terms of credits applied to a contractors account (effectively reduced permit fees).
- Conversely, disincentives, up to and including a 50% increase in a project's permit fee, will be levied against those contractors whose projects produce code defect rates above 15%.
- Together, incentives and disincentives should conserve inspector time and reduce our trades inspection workload.

10/21/99

Small Project Lead Contractor

Commercial/Residential

TYPE OF WORK

	<i>Plumbing Contractor Plumbing Contractor</i>
<i>Gas Piping Alteration/Change Out Hoods Ventilation</i>	<i>Plumbing Contractor Plumbing Contractor</i>
<i>Change Out Refrigeration Equipment Change Out HVAC Equipment Change Out · Associated Electrical Work</i>	<i>Electrical Contractor</i>
<i>Incidental HVAC or Gas Appliance Addition · Associated Elect/Plbg Work</i>	<i>Electrical Contractors Electrical Contractors</i>
<i>Gas Water Heater Change Out · Associated Mechanical Work</i>	<i>Electrical Contractors Electrical Contractors</i>
<i>Electric Water Heater Change Out · Associated Electrical Work</i>	
<i>Incidental Plumbing Addition/Renovation/Change Out · Associated Mech/Plbg Work</i>	
<i>Electrical Saw/Pole Services</i>	
<i>Electrical Compressors/Motors/Equipment · Associated Mech/Plbg Work</i>	
<i>Electrical Renovation/Alteration of Existing Bldg. Incidental</i>	
<i>Electrical Additions/Renovations</i>	
<i><u>*LEAD CONTRACTOR</u></i>	
<i>Mech/Plbg Contractor Vent/Mech Contractor Refrigeration Contractor</i>	
<i>Mechanical Contractor Mechanical Contractor</i>	
<i>Mechanical Contractor Mechanical Contractor</i>	
<i>Plumbing Contractor Plumbing Contractor</i>	

Code Compliance Task Force (CCTF) Program Development

Meeting #11

Thursday, November 4, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

1. Continued discussion on communication of contractor individual defect rates

1A. discussed how individual contractor code defect rates will be posted (made available to the public). The Internet seems to be the preferred method

1B. Continued discussion of criteria for contractor individual report:

- ☐ Jim B reviewed Greg A's proposal (from last meeting) to include, for each contractor:
 - e) top 5 technical defects
 - f) contractors overall failure rate; listing number of total inspections, number of failed inspections, and defect % rate
 - g) industry overall defect % rate for that trade
 - h) where the contractor stands among all contractors in that trade: top 1/3, middle 1/3, bottom 1/3.
- ☐ DH and others suggested adding a type classification, such as:
 - ☐ Residential renovation
 - ☐ Residential new SF
 - ☐ Commercial: MF/condo
 - ☐ Commercial: other
- ☐ Chris K and others suggested a breakout separating technical from non-technical defects. After debate, decided to try listing defect rates by technical, non-technical and total, with a paragraph explaining same.

2. Fax back library

2A. JB reviewed excerpts from 5/12 report on this.

- ☐ idea is to make info on code requirements and how to install correctly more readily available.
- ☐ Initially, this would be aimed at most common 20 defects in each trade but, if successful, this could be expanded to any specific code defect in the future, building a "library" of sorts.

2B. Discussed the preferred posting medium.

- ☐ Both Internet and fax back were preferred
- ☐ Fax back will not be tied to IRIS, so as not to slow it down; will be separate stand alone number.

2C. JB suggested the content of each item to possibly include: a) code section, b) commentary on what the section means, c) common errors, and d) correct installation method (drawing if necessary). No objections were noted.

3. Industry policy on basic inspection call in steps

3A. Discussed steps which successful contractors used, the following being sited:

- ☐ Top 10 defect rates
- ☐ Basic checklist of framing
- ☐ Basic checklist of other code items
- ☐ List of obvious things missing (turn downs from truck)
- ☐ Don't call until it's ready

3B open discussion

- □ Pin number system will help generate checklist of individual PM/supt. weaknesses
- □ Need to solicit other tools and examples from contractors who get it right.
- □ *Directors note: Maybe assemble into one strong example for each trade, which trade associations endorse as best practice.*
- □ Discussion to continue on this

4. Assignments

- □ department will begin drafting a final report format for review
- □ department will draft mockups of the contractor individual defect report format and review classification breakdown with DP staff
- □ department will draft a mockup of what the fax back library product will look like.
- □ Jamie Pickler and Chris Kasak will provide checklists currently used in preparing for inspections

5. Next meeting: Thursday November 18, 1999 @ 3:30pm in the Cornelius Conf. Rm.

Agenda will be:

- k) Complete discussion of industry policy on basic inspection call in steps
- l) Other trade association initiatives, including:
 - 1) training outreach program strategy
 - 2) training incentives
- m) Discuss CFD relation to percent concept
- n) Revisit doomsday items for application to individual contractors
- o) Last look at examples of “failures which are not really failures”

Code Compliance Task Force (CCTF) Program Development

Meeting #12

Thursday, November 18, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

1. CCTF Program Development Final Report

- Jim B distributed a first example of how the final report might be assembled, with proposed content.
- Ben A suggested CFD item should also include MCFM; good point
- Will revisit/receive comments on proposed report format at the next meeting. In the meantime, will continue to grind out as many inserts as meetings have defined.

2. Reviewed mockups of contractor individual defect rate report

2A. Gene M distributed 4 draft mockups and reviewed each one

- After lengthy discussion, there was a split in preference between drafts 3&4: finally agreed to assemble a 5th draft combining the two, plus adding
 - Phil's suggestion of a graphic bar chart showing 1/3,1/3,1/3
 - Revise "tech/non-tech" to "code related" and non-code related"
 - Add descriptive text of what non-code related consists of
 - Hyperlink to list of non-code related defect items

2B. *Discussed the final categories for breakdown of contractors work type (see idea in draft #3)*

- After discussion, finally agreed to:
 - i) Residential renovation and other
 - j) Residential new construction 1&2 family
 - k) Commercial multi-family and condo
 - l) Commercial other

3. Code defect library for fax back and Internet

- Phil E circulated first sample of how code requirements can be extracted and published. Contractors indicated the information will be helpful
- JB noted Phil's example would be combined with
 - a) commentary (when available)
 - b) common errors in installation
 - c) drawing of correct installation if available
- Dept will develop new mockup based on the above
- Code defect information sheets would be made available by Internet or fax back

4. Discussed how best to get contractor code defect reports to the industry on an interim basis until the reports are on the Internet 4/1/2001

- All agreed the current distribution method through the trade associations doesn't work well
- Most contractors indicated they would prefer to come in to the BDC to pickup the report
- It was agreed to switch to pickup at the office as follows
 - Department will confirm pickup point either at front desk or document control
 - Contractors must: a) present business card or company id, b) must request info by account number

5. Continued discussion of industry policy on basic inspection call in steps

- □ Chris Kasak submitted “Framers Bible” used by his staff in the field
- □ JB suggested collecting more examples and assembling into one strong example for each trade, which trade associations endorse as best practice
- □ Contractors thought this was achievable
- □ Need to collect more examples of how effective contractors prepare for an inspection.

6. Assignments

- □ department will do draft #5 of the contractor individual defect report format based on these meeting comments
- □ department will revise mockup of code defect library product
- □ Jamie Pickler will provide checklists currently used in preparing for inspections
- □ Chiefs will solicit input from inspectors on which contractors have good pre inspection practice

1. Next meeting: Thursday December 2, 1999 @ 3:30pm in the Cornelius Conf. Rm.

Agenda will be:

- p) Receive comments on final report format
- q) Continue reviewing examples of on basic inspection call in steps
- r) Other trade association initiatives, including:
 - 1) training incentives:
 - a) **P Granson to lead off discussion with presentation of new Department training concepts**
 - b) Discuss other sources of training programs
 - 2) training outreach program strategy
- s) Review other parts missing from final report
- t) Discuss CFD/MCFM relation to percent concept
- u) Revisit doomsday items for application to individual contractors
- v) Last look at examples of “failures which are not really failures”

DRAFT #1

CHARLOTTE-MECKLENBURG ENGINEERING & BUILDING STANDARDS
CONTRACTOR FAILURE RATE REPORT
FOR: NOVEMBER 1999
CONTRACTOR: JOHN DOE CONTRACTING INC.

TOTAL INSPECTIONS:	<u>00344</u>	
TOTAL INSPECTIONS FAILED:	<u>00065</u>	
CONTRACTOR AVERAGE FAIL RATE:	<u>19%</u>	
INDUSTRY AVERAGE FAILURE RATE:	<u>39%</u>	
FAILURE RATE STANDING IN TRADE IS:	<u>LOWEST THIRD AMONG COMPANIES</u>	
TOP FIVE TECHNICAL CODE DEFECTS:	(1) FRAMING CODE 11	FIRE STOPPING/DRAFTSTOPPING
	(2) FRAMING CODE 31	ENGINEERED ROOF DESIGN, INSTALLATION, REPAIR
	(3) FINAL CODE 14	FLASHING CAULKING
	(4) FRAMING CODE 39	IMPROPER NAILING
	(5) FOOTING CODE 18	NEED SOIL COMPACTION TEST

**CHARLOTTE-MECKLENBURG ENGINEERING & BUILDING STANDARDS
CONTRACTOR FAILURE RATE REPORT
FOR: NOVEMBER 1999
CONTRACTOR: JOHN DOE CONTRACTING INC.**

CONTRACTOR TYPE: **BUILDING**

ACTIVITY TYPE BREAKDOWN: **15% Residential Renovation**
55% Residential New Sf
30% Commercial MF/Condo

TOTAL INSPECTIONS: **00344**

TOTAL INSPECTIONS FAILED: **00065**

CONTRACTOR AVERAGE FAIL RATE: **19%**

INDUSTRY AVERAGE FAILURE RATE: **39%**

FAILURE RATE STANDING IN TRADE IS: **LOWEST THIRD AMONG COMPANIES**

TOP FIVE TECHNICAL CODE DEFECTS:

(1) FRAMING	CODE 11	FIRE STOPPING/DRAFTSTOPPING
(2) FRAMING	CODE 31	ENGINEERED ROOF DESIGN, INSTALLATION, REPAIR
(3) FINAL	CODE 14	FLASHING CAULKING
(4) FRAMING	CODE 39	IMPROPER NAILING
(5) FOOTING	CODE 18	NEED SOIL COMPACTION TEST

CHARLOTTE-MECKLENBURG ENGINEERING & BUILDING STANDARDS
CONTRACTOR FAILURE RATE REPORT
FOR: NOVEMBER 1999
CONTRACTOR: JOHN DOE CONTRACTING INC.

CONTRACTOR TYPE: **BUILDING**

ACTIVITY TYPE BREAKDOWN: **15% Residential Renovation**
TOTAL INSPECTIONS: **00044**
TOTAL INSPECTIONS FAILED: **00017**
CONTRACTOR AVERAGE FAIL RATE: **38%**
INDUSTRY AVERAGE FAILURE RATE: **39%**
FAILURE RATE STANDING IN TRADE IS: **MIDDLE THIRD AMONG COMPANIES**

ACTIVITY TYPE BREAKDOWN: **55% Residential New Sf**
TOTAL INSPECTIONS: **00344**
TOTAL INSPECTIONS FAILED: **00065**
CONTRACTOR AVERAGE FAIL RATE: **19%**
INDUSTRY AVERAGE FAILURE RATE: **39%**
FAILURE RATE STANDING IN TRADE IS: **LOWEST THIRD AMONG COMPANIES**

ACTIVITY TYPE BREAKDOWN: **30% Commercial MF/Condo**
TOTAL INSPECTIONS: **00124**
TOTAL INSPECTIONS FAILED: **00075**
CONTRACTOR AVERAGE FAIL RATE: **60%**
INDUSTRY AVERAGE FAILURE RATE: **39%**
FAILURE RATE STANDING IN TRADE IS: **HIGHEST THIRD AMONG COMPANIES**

- TOP FIVE CODE DEFECTS:
- | | | |
|-------------|---------|--|
| (1) FRAMING | CODE 11 | FIRE STOPPING/DRAFTSTOPPING |
| (2) FRAMING | CODE 31 | ENGINEERED ROOF DESIGN, INSTALLATION, REPAIR |
| (3) FINAL | CODE 14 | FLASHING CAULKING |
| (4) FRAMING | CODE 39 | IMPROPER NAILING |
| (5) FOOTING | CODE 18 | NEED SOIL COMPACTION TEST |

Contractor Failure Rate Report Analysis

The Code Compliance Task Force is considering four draft proposals for the Contractor Failure Rate Report. Draft #1 is the simplest of the proposals. It contains the total number of inspections for a contractor, the number failed, the failure rate (with a comparable figure for the industry), a ranking for the trade, and the five most frequent technical failures for the contractor. Draft #4 is a slight variation of Draft #1; the percent of failures is further qualified by technical vs. administrative code failures. Otherwise, the information is the same as on Draft #1.

Drafts #2 and #3 further break down the activity type by residential renovation, residential new single-family, and commercial, which includes multi-family and condominiums as well as industrial and commercial structures. Draft #2 presents the activity type by the percentage of the contractor's permits associated with each type. Draft #3 includes the information on draft #2 as well as a breakdown for each type. That is, each subsection of draft #3 presents the total inspections, the failed inspections, the failure rate, and the contractor standing for each type of activity.

Although Draft #1 contains less information than draft #4, they are equally easy to produce. The numbers that are used to calculate the figures in draft #4 have to be collected for draft #1 anyway, even if they are not presented as such. In order to calculate the top five technical defects for draft #1, the technical defects have to be recognized in any case. So, draft #4 is preferred to draft #1.

A similar argument can be made between draft #2 and draft #3. The numbers for draft #3 have to be collected to produce draft #2, in any case. Therefore, we might as well present them. So draft #3 is preferred to draft #2.

The choice boils down to draft #3 and draft #4. The difference in these reports is that draft #4 produces a breakdown between technical and administrative failures, whereas the breakdown in draft #3 is between activity type. It should be noted that the technical / administrative distinction has to be considered for draft #3 in order to list the top five code defects. The most complete report would actually be a combination of draft #3 and draft #4. However, draft #4 is by far the easier to produce; the level of complexity increases considerably for the draft #3 format. I believe that draft #4 could be produced, using a modified version of the Inspection Tracking database in three weeks. Draft #3 would require, I believe, about five weeks. (The Inspection Tracking database would have to contain information whereby the activity type could be derived. A very flexible implementation for this might be a table defining activity type as a function of permit type and USDC code. The modification to the database would be a combined effort with the DBA's, which would probably take two weeks.)

Code Compliance Task Force (CCTF) Program Development

Meeting #13

Thursday, December 2, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

1. Future agendas

- ☐ Discussed CFD/MCFM tie into percent concept
 - ☐ Originally this was a MGCA concern; need to reconfirm this
 - ☐ Idea is to have CFD/MCFM be as automated as trades inspections
 - ☐ Key issue: whether advance meetings on site count as failed inspections
 - ☐ Based on MGCA comment, will decide if need separate subcommittee (JB,GM, BA,RW,CFD, MCFM) to pursue this on a track separate from all other CCTF work.
- ☐ Other outstanding items
 - ☐ Revisit doomsday list
 - ☐ Last look at failures not really failures list
 - ☐ Last run through final report

2. Training outreach programs discussed

- ☐ Noted that trade associations represent the vast minority of contractors. Problems are:
 - ☐ Small contractors don't know associations are out there
 - ☐ How do you contact them?
 - ☐ How do you interest them?
- ☐ Daniel H noted CPHCA is staging a drive to improve membership
- ☐ Noted some of the benefits of association membership
 - ☐ Representation and a voice in task forces and other initiatives
 - ☐ Representation on BDC
 - ☐ Access to consistency teams
 - ☐ Builders council like meetings (all business)
 - ☐ Legislative vehicle
 - ☐ Insurance benefits (in the past)
 - ☐ Preferential training tuition levels (in the future)
 - ☐ Other?
- ☐ All agreed outreach programs are important, even if they only reach 10% more,....**but you have to give contractors reasons to participate.**
- ☐ Discussed the possibility of HBA providing an educational person for all trades
 - ☐ similar to relationship between AIA-C staff and E&BS, which has produced CEC courses on Vol 9, exiting and accessibility
- ☐ To be discussed further next meeting.

2. Assignments

- a) Ron W to confirm if MGCA is still interested in addressing CFD automation in final report.
- b) department will present mockup of code defect library product
- c) G Morton will present draft #5 of code defect contractor report
- d) Phil E & Gerald H need to canvas inspectors for contractors with good pre-inspection procedures.
- e) All contractors; give more thought to how trade associations can make themselves more valuable

3. Next meeting: Thursday December 16, 1999 @ 3:30pm in the Cornelius Conf. Rm.

- a) Agenda will be:
- b) Receive presentation from Patrick Granson on E&BS training ideas
- c) Discuss how "a" fits trade association training incentives
- d) Revisit training outreach: what association steps can we agree on
- e) Review chiefs findings on contractor pre-inspection steps: can we agree on these as "best practice"
- f) Re-visit doomsday items for application to individual contractors
- g) Last look at examples of "failures which are not really failures"

Code Compliance Task Force (CCTF) Program Development

Meeting #14

Thursday, December 16, 1999

3:30pm – 5:00pm @ Cornelius Conference Room

1. Contractor defect report format

- □ GM presented draft #5 (copy attached)
- □ Greg A asked how someone will know if a contractor holds licenses in multiple trades
 - □ GM will talk to DP regarding how to address this
 - □ Also will consider adding contractor's address

2. CCTF 90% Final Report Draft

- □ Copy distributed to all attendees
 - □ Will also be sent to BDC trades reps and CFD
- □ JB briefly reviewed the content and organization
 - □ CCTF members are to read in detail and bring comments to the next meeting

3. Training incentives discussed

- □ JB noted we must answer two questions
 - a) How do we change the lack of training incentive at the line level?
 - b) How do we create an environment where the line level wants to or has to train?
- □ Patrick Granson presented E&BS concepts for "Contractor Training Program"
 - □ Outline handout attached
 - □ We estimate the proposed training as an 8 hour course, subject to refinement as startup use indicates.

4. Training incentives and outreach discussed

- JB noted this is an opportunity for the trade associations and HBA to act together.
- Greg W sees the re-inspection fee program as pushing people into training
 - But trade assoc. and HBA must be ready to act
- JB suggested HBA and trade assoc take the lead by establishing a position in charge of training
- If that doesn't work, there are other possible steps, such as:
 - Provide a training connection to salary or bonus
 - Establish a mandatory training requirement if an individual's defect rate is too high
 - All agreed, down the road, any mandatory training requirement should kick in at 20%
- Phil E suggested a continuing education class (CEC) requirement be attached to the journeyman's card local ordinance, requiring annual level be completed before you can renew your card.
- Gene M suggested tying CEC's and code defect data to attainment of a preferred customer status
- Gene M asked if excess revenue from re-inspection fee increase could be earmarked to support training
 - JB thinks not, as the special fund initiative will require the establishment of a fund balance.
 - In all likelihood, training would be "paid for classes" with tuitions ranging in the \$60 to \$150 range (subject to detailed program development).

5. Assignments

- JB will consolidate above training/outreach discussion into a list of possible incentive programs; circulate to CCTF members for review.
- GM will review with DP comments on Contractor Defect Report draft 5 for report at next meeting.
- CCTF members will review pre-inspection steps for discussion at next meeting. Could these be adopted by trade associations as best practice?
- CCTF members will review final report draft and bring comments to upcoming meeting

6. Next meeting: Thursday January 13, 1999 @ 3:30pm in the Cornelius Conf. Rm.

(NOTE: THIS MEANS WE'RE SKIPPING THE DEC. 30 MEETING)

Agenda will be:

- w) Discuss and prioritize list of possible trade association training incentives
- x) Revisit training outreach: what association steps can we agree on
- y) Review chiefs findings on contractor pre-inspection steps: can we agree on these as "best practice"
- z) Revisit doomsday items for application to individual contractors
 - aa) Last look at examples of "failures which are not really failures"
 - bb) Begin review of final report draft

CHARLOTTE-MECKLENBURG ENGINEERING & BUILDING STANDARDS
CONTRACTOR FAILURE RATE REPORT

FOR: NOVEMBER 1999
CONTRACTOR: JOHN DOE CONTRACTING INC.

CONTRACTOR TYPE:

BUILDING

ACTIVITY TYPE BREAKDOWN:

TOTAL INSPECTIONS:

15% Residential Renovation & Other

Code
Related

Non-Code
Related

TOTAL INSPECTIONS FAILED:

00044

CONTRACTOR AVERAGE FAIL RATE:

00017

10

38%

23%

16%

ACTIVITY TYPE BREAKDOWN: TOTAL
INSPECTIONS:

00344

55% Residential New I & 2 Family Construction

ACTIVITY TYPE BREAKDOWN:
TOTAL INSPECTIONS:

30% Commercial MF/Condo

00124

TOTAL INSPECTIONS FAILED:

00075

56%

04%

CONTRACTOR AVERAGE FAIL RATE:

60%

70

05

Note: Non-Code related defects are defined as administrative failures not impacting the technical requirements of the code (1c; no access to site, change of contractor etc).

TOP FIVE CODE RELATED DEFECTS:

(1) FRAMING CODE I I

(2) FRAMING CODE 31

(3) FINAL CODE 14

(4) FRAMING CODE39

(5) FOOTING CODE 18

FIRE

STOPPING/DRAFTSTOPP

ING

ENGINEERED ROOF

DESIGN, INSTALLATION, REPAIR

FLASHING CAULKING

IMPROPER NAILING

NEED SOIL COMPACTION TEST

INDUSTRY AVERAGE FAILURE
RATE:

LOWEST FAILRATE

I

1

.....39%.....

HIGH FAIL RATE

CONTRACTOR FAILURE RATE

1/3

1/3

1/3

STANDING IN TRADE

M/P 1/3 Failure rate

MECKLENBURG COUNTY
Engineering & Building Standards Department
December 16, 1999

MEMORANDUM

TO: Code Compliance Task Force

FROM: Patrick Granson

Reference: Contractor Training Program

Given the strong construction growth in Mecklenburg County, coupled with the low unemployment rate, contractors are now hiring employees with limited construction experience. This lack of experience and knowledge of the North Carolina State Building Code has lead to significantly higher failure rates than in previous years. Most homebuilders are hiring superintendents, project foremen and/or job captains to supervise their projects. We believe these managers should be familiar with all aspects of the job, including code compliance. Therefore, we would like to propose in-house training for Mecklenburg County homebuilders. We realize that the industry desires a faster inspection process, but we believe this can only be achieved by lowering the number of re-inspections. Education is key in accomplishing the goals of both parties.

For your consideration, please find below a brief summary of the contractor-training program that we would like to implement in Mecklenburg County.

PROGRAM TITLE: B.A.S.I.C. (Building a Structure In Compliance)

TERM: Should we decide to implement this program, we must be dedicated to providing the program to contractors for a certain period of time in order to justify the up front costs associated with the proposed training.

TOPICS OF DISCUSSION:

- 1) Mecklenburg County Building Standards Department – Departmental functions, plan submittal, validation of plans, issuance of permits, inspections
- 2) Residential plan review requirements
- 3) Brief introduction of various agencies – Environmental Health, NESAP, Vector
- 4) North Carolina State Building Code, most common violations, field inspections

TOPICS OF DISCUSSION (continued...):

- 5) New products and their applications
- 6) Consistency Team reports
- 7) Interpretation manual from the North Carolina State Inspectors Association
- 8) Model Energy Code for single family construction (MecCheck)
- 9) Scheduling inspections
- 10) Tools used to hold down failure rates.

CONTRACTOR BENEFITS:

- 1) Educated field staff who has a better understanding of the North Carolina State Building Code and contractor responsibilities to comply with these laws. In addition, these employees will be educated to inspect the work of their sub-contractors prior to calling for an inspection.
- 2) Reduction in failure rate ... thus creating faster inspections (due to volume decrease for inspectors)
- 3) Fewer contractor fines when the field staff understands the reason for a “disapproved” inspection and coordinates correction of the problem(s)
- 4) Decrease in service/warranty work – “Do It Right The First Time” attitude
- 5) Increased communication with customers
- 6) Consistency with field staff on code related issues
- 7) Increased communication with inspectors regarding the North Carolina State Building Code.

MECKLENBURG COUNTY BENEFITS:

- 1) Through contractor education, homeowners should receive a structure that meets at least the minimum code requirements
- 2) Fewer re-inspections – therefore, quicker first time inspections
- 3) Reduction in contractor failure rates
- 4) Increased communication with contractors regarding the North Carolina State Building Code
- 5) Ability to provide better service to contractors who are ready for inspections
- 6) Contractor training can only improve the relationship between the department and the construction industry.

We believe, for the above listed reasons, that a training program provided by Mecklenburg County to the construction industry would be a win/win situation for both groups. Of course, this training program will require input from the industry, along with the industry’s approval and support of such program. In addition, we may want to consider a reward system for contractors who consistently perform below a pre-defined failure rate.

Thank you for your consideration of the above proposal.

DRAFT #

CHARLOTTE-MECKLENBURG ENGINEERING & BUILDING STANDARDS
 CONTRACTOR FAILURE RATE REPORT
 FOR: NOVEMBER 1999
 CONTRACTOR: JOHN DOE CONTRACTING INC.

CONTRACTOR TYPE:	BUILDING		
ACTIVITY TYPE BREAKDOWN:	15% Residential Renovation & Other	Code Related	Non-Code Related
TOTAL INSPECTIONS:	00044		
TOTAL INSPECTIONS FAILED:	00017	10	7
CONTRACTOR AVERAGE FAIL RATE:	38%	23%	16%

ACTIVITY TYPE BREAKDOWN:	55% Residential New 1 & 2 Family Construction		
TOTAL INSPECTIONS:	00344		
TOTAL INSPECTIONS FAILED:	00065	40	25
CONTRACTOR AVERAGE FAIL RATE:	19%	12%	07%

ACTIVITY TYPE BREAKDOWN:	30% Commercial MF/Condo		
TOTAL INSPECTIONS:	00124		
TOTAL INSPECTIONS FAILED:	00075	70	05
CONTRACTOR AVERAGE FAIL RATE:	60%	56%	04%

Note: Non-Code related defects are defined as administrative failures not impacting the technical requirements of the code (ie; no access to site, change of contractor etc.).

- TOP FIVE CODE RELATED DEFECTS:
- | | | |
|-------------|---------|--|
| (1) FRAMING | CODE 11 | FIRE STOPPING/DRAFTSTOPPING |
| (2) FRAMING | CODE 31 | ENGINEERED ROOF DESIGN, INSTALLATION, REPAIR |
| (3) FINAL | CODE 14 | FLASHING CAULKING |
| (4) FRAMING | CODE 39 | IMPROPER NAILING |
| (5) FOOTING | CODE 18 | NEED SOIL COMPACTION TEST |

INDUSTRY AVERAGE FAILURE RATE: **39%**

CONTRACTOR FAILURE RATE STANDING IN TRADE

	I	XXXXXXXXXXXXXXXXXXI	I
LOWEST FAIL RATE	1/3	1/3	1/3
			HIGH FAIL RATE

ALL 1/3 FAILURE RATE

Code Compliance Task Force (CCTF) Program Development

Meeting #15

Thursday, January 13, 2000

3:30pm – 5:00pm @ Cornelius Conference Room

1. Training incentives discussed

- □ JB reviewed 12/21 memo on possible training incentives discussed in meeting #14 (pervously circulated)
- □ D Hawkins moved to delete the “preferred customer status” section, as it was noted the primary tool (guaranteed inspection time) is included in proposal already. No objections.
- □ K Reid suggested adding to make available to the public, a list of all contractors achieving a 10% or less defect rate. This would be a supplement to the other quarterly code defect reports CCTF is planning. All agreed.
- □ D Hawkins suggested combining “be ready”, “industry leader” and “builders academy” as one topic. JB noted leadership issue is important and shouldn’t be diluted. Unresolved.
- □ Discussed journeyman’s card program. How aggressively is it enforced? G Harvell noted cards are asked for if work is visibly poor. Many times on residential no one is present, but this will be mitigated by 2 CCTF initiatives requiring contractors to meet inspectors on site.
 - □ After discussion, all agreed the journeyman’s card CEC proposal is a good idea, subject to ok by county attorney.
- □ K Reid noted training needs to be classroom or hands-on, correspondence courses aren’t good enough.
- □ C Kasak indicated plans to stage in house training program. Need to develop places to go for training. B Hardan concurred; they have in house ethic., but need somewhere to send staff.
 - □ K Reid indicated CPCC is anxious to put construction institute together. J Burns indicated problems with CPCC and apprentice programs in past. Jb suggested trades negotiate with CPCC
- □ G Austin suggested we’re looking at it backwards. There are too many individuals working with insufficient training; need to start with state requirements first. J Burns indicated this is close to impossible to effect.
- □ Who’s responsible for training
 - □ J Burns suggested trade associations initiate the classes and give their members a discounted tuition fee.
 - □ Z Acosta noted training leadership is difficult for small associations which operate mostly through volunteer effort.
 - □ B Hardan indicated building contractors should look to HBA for training
- □ Debated why anyone would do training.
 - □ C Harrell asked why anyone would do the training if it’s voluntary
 - □ K Reid concurred; unless you tell staff they have to training, they won’t do it.
 - □ C Kasak noted the supervisor in the field isn’t the problem, it’s the installer. Others disagreed, noting responsibility.
 - □ JNB suggested gaining local authority for CEC beyond the journeyman’s card.
- □ K Balas noted past code seminar attended have been questionable in the quality of code info presented. Needs to be addressed
 - □ JB noted Dept. is willing to support an industry initiative by providing CEO’s as instructors; but it isn’t the Dept. role to lead the training effort.
 - D Hawkins stressed the Dept has to be ready to instruct on code defects.
- □ B Hardan and C Harrell noted they’re doing better work and training in fear of public and in fear of GC/Builders reaction to defect reports.
- □ Debated the builder’s academy concept. No agreement reached.
- □ G Morton suggested there are 3 parts to improving: a) code defects sighted by inspectors, lack of incentive to train and c) poor understanding of installation procedures.
- P Cozens suggested considering a 2 tiered permit fee: someone gets a better fee going in (at permit application), based on having subs with the nest failure rate. Brief discussion with no consensus.

2. Training incentives and outreach: conclusions

- JB suggested boiling the above discussion into two sets of recommendations, which everyone seems to agree on, as follows:
 - A. Incentive items
 - Journeyman CEC program
 - Need for local authority to create a program for builders and GC's similar to journeyman's card; shape the program later with a CEC component.
 - Publicize a list of contractors at or below the 10% code defect target.
 - B. Outreach items
 - Be ready
 - Industry training leader
- JB will draft descriptions of above and circulate to CCTF members before next meeting for discussion therein.

3. Other

- □ P Edwards suggested a time limit be placed on appeals process.
- □ J Burns suggested using state criteria: contractor has 45 days to appeal in writing; Dept has 20 days to respond.
- □ G Austin said that's too long suggesting contractor has 14-21 days to appeal in writing; Dept has 14 days to respond.

4. Assignments

- □ JB will turn meeting #15 notes into draft of training/sections
- □ GM will circulate memo on DP comments on Contractor Defect Report draft 5
- □ CCTF members will review pre-inspection steps for discussion at next meeting. Could these be adopted by trade associations as best practice?
- □ CCTF members will review final report draft and bring comments to next meeting

5. Next meeting: Thursday January 27, 2000 @ 3:30pm in the Cornelius Conf. Rm.

Agenda will be:

- cc) Review chiefs findings on contractor pre-inspection steps: can we agree on these as "best practice"
 - dd) Revisit training incentives and outreach: review final drafts for these sections
 - ee) Revisit doomsday items for application to individual contractors
 - ff) Last look at examples of "failures which are not really failures"
- Review of final report draft



MECKLENBURG COUNTY
Engineering & Building Standards Department

MEMO

DATE: December 21, 1999
TO: CCTF members
FROM: Jim Bartl
SUBJECT: Possible training incentives

Boiled down from the 12/16 CCTF meeting discussions, the following is a list of possible training incentives which could be offered by trade associations. Please review for the next meeting on 1/13, wherein we will agree on and prioritize the list. Note, the last bullet, *in italics*, was discussed after the meeting, and is also offered for your consideration. Keep in mind we also need to identify training outreach issues.

- **Be Ready:** Trade associations and HBA prepare courses to offer in response to demand generated by the new re-inspection Fee Program going into effect 4/1/2000.
- **Industry Training Leader:** Trade associations and HBA join together to create a position in charge of making training courses happen among all trades, as well as placing training candidates in seats.
- **Carrots and Sticks:** trade associations agree to a guideline criteria connecting:
 - a) successful completion of training classes tied to salary/bonus structure.
 - b) if line management (pm, supt) defect rate reaches 20%, training is mandatory to continue employment.
- **Journeyman's CEC:** in the mechanical, electrical and plumbing trades, revise the local ordinance to require minimum of "x" hours of continuing education credit (CEC) training per year to renew journeyman's card
- **Preferred Customer Status:** for all trades, combine CEC achievement with best code defect levels to create a preferred customer status. Status to make benefits available in response time, continuity of inspectors (special assignments), advanced targeted training and other areas.
- **Builder's Academy:** *an intense 4 month course on the full range of tasks involved in producing a high quality code compliant project. Topics range from code basics to quality issues. Experts present concentrated analysis of various residential components. Successful completion of curriculum leads to an academy certificate, or certificate of excellence. Benefits would include an industry initiated advertising program creating consumer demand for companies and managers with certificates.*

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Code Compliance Task Force (CCTF) Program Development

Meeting #16

Thursday, January 27, 2000

3:30pm – 6:00pm @ Cornelius Conference Room

1. Training incentives discussed

- □ JB circulated and read the 1/27 training incentives draft (attached).
- □ After a lengthy discussion, D Hawkins proposed 2 changes
 - a) revise opening paragraph 3rd sentence, deleting “...preference for low price over...” and inserting “...lack of awareness of the value of...”
 - b) reword the 4th bullet, public awareness, to say “if there is a demand for skill, there will be incentive to train. The trade associations should develop a joint public campaign emphasizing the value of code compliance. The public must value training by their consumer habits, as must the industry”
- □ All agreed with both the proposed changes and to incorporate the balance of the draft as is.

2. Training outreach discussed

- □ JB circulated and read the 1/27 training outreach draft (attached).
- □ One change was proposed:
 - □ revise “Be Ready”, 2nd paragraph, last sentence, deleting “...support this effort...” and inserting “...be prepared to provide trainers for code compliance issues...”
- □ several grammatical errors were corrected.
- □ After a lengthy discussion, all agreed both with the proposed change and to incorporate the balance of the draft as is.

3. Reviewed report section on Basic Inspection Call In Steps (draft pages 16-20)

- □ Building: revise, adding reference to nailing schedule requirement
- □ Electrical: several grammatical and typo changes indicated by K Reid
- □ Plumbing: ok as is per D Hawkins
- □ Mechanical: W Kirkland and R Calloway proposed deleting page 19 and replacing with a markup they gave to Phil Edwards at meeting conclusion.
- □ All agreed to include this section as drafted, with the above revisions noted.

4. Marc Houle/K Reid proposal on special inspections program

- □ Marc Houle distributed draft CCTF proposal, developed jointly with K Reid, calling for a new after hours inspection premium service (copy attached).
- □ The proposal was debated at length, with all the builders present voicing opposition.
- □ No consensus being reached, the proposal was withdrawn.

5. Appeals Process discussed

- □ P Edwards proposed revising the last sentence of this section of the report to say “appeals must be submitted within 15 working days of the inspection date. Appeal decision will be made within 15 work days of receiving written appeal”.
- □ All agreed to add this language, except change the 15 work days to 10 work days.
- □ This language will also be placed on the bottom of the appeal form.
- □ G Morton proposed adding a clarification “while the department encourages communication between contractors and CEO’s regarding failed inspections...” all agreed.

6. Contractor Defect Rate Report reviewed

- □ G Morton reported DP can do the report as currently designed
- □ DP asked how far the bottom bar, grouping contractors in 3rds, should be split. After ½, time cost is the same to do anything between 1/3's and 1/8's.
- □ All present agreed to leave the contractors grouping split in 3rd's.

7. Reviewed items proposed for addition to report section on Failures Not Really Failures

7a). proposal to add: “inspector failed work that was installed per approved plans”.

- □ P Edwards raised a partial objection in the event items are not clear on the plans, but in the field, it is clear that it is a basic code requirement.
- □ All agreed to change language to “.....installed per approved plans and details”, so if it's not detailed, still has to be installed per code.
- □ With that clarification, all agreed this qualifies for Failures Not Really Failures

7b). proposal to add: “failure of inspection not requested”.

- □ All agreed inspector generated routine inspections should not be charged
- □ Two exceptions were sited:
 - □ Changeout inspections where a request for one inspection is intended to cover both
 - □ Insulation inspections, where they were allowed to proceed with framing corrections needed, but those framing corrections remain incomplete.
- □ With that clarifications noted, all agreed this qualifies for Failures Not Really Failures

7c). proposal to add: “when multiple inspectors work a job, one inspector finding something which is was overlooked by the previous inspection”.

- □ Concern here by the GC/builder's is about “small stuff”
- □ P Reed proposed electrical criteria be used: if it's something small, eat it, but if it's a hazard, it's turned down and counts. This seemed to address the GC/builder concern.
- □ JNB proposed this would not apply to mass failures, where so many items are sited, that an inspector could easily miss other items (thresholds kicked around have been: bldg 8, elec 6, mech 4, plbg 4).
- □ With the exception for mass failures noted, all agreed this qualifies for Failures Not Really Failures, as described by the Reed clarification.

Note: a discussion ensued regarding whether “Failures Not Really Failures” category, will apply to just the re-inspection fee calculation, or accounting in contractor defect report as well. JNB suggested it applies to both.

8. Final Report Review

- □ Briefly reviewed CFD/MCFM Part 13 of the draft report.
- □ All present agreed they had no comments on the draft as is. No need for CFD to attend the last meeting.

9. Assignments

- □ E&BS staff will incorporate all changes from today's meeting and begin preliminary assembly of CCTF final report, subject to any revisions made on 2/3/2000.

10. Next meeting: Wednesday February 2, 2000 @ 3:30pm in the Cornelius Conf. Rm.

.....Note: this is a special time.....

Agenda will be:

- a) Complete review of final report draft
- b) Agree on 2/9 BDC presentation format and participants

**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

Industry Training Outreach Programs

January 27, 2000

A significant roadblock to any training program is the low membership level in the local trade associations. While the associations are the only local voice for the industry, it is estimated they represent only 15% (or less) of contractors in the field. Obviously if training is to reach the line level on a broad basis, an effective outreach program is a key element.

Compounding the problem is the nature of the local trade associations. Only two of the seven have full time staff, the others being driven by volunteers. Consequently, there is a shortage of available staff hours to devote to either training or outreach.

Nonetheless, the Task Force felt there were positive steps, which could be taken to effect training on a far wider basis than currently exists.

3. Be Ready:

In all likelihood, the new Re-inspection Fee Program going into effect 4/1/2000, and the publication of contractor defect rates on 4/1/2001, will create demand for training among all contractors, whether in trade associations or not. This is both an opportunity and a responsibility for the trade associations collectively.

Since the industry has over 24 months of code defect data in hand for each discipline, they have some idea of the specific defect areas in which training is needed the most. The trade associations and HBA/MGCA should prepare courses to offer in response to the anticipated industry wide demand. The range of the courses could be expanded later in response to user feedback. E&BS should support this effort.

4. Industry Training Leader:

Currently, there is no focal point for training among the associations. Consequently, the vast majority of training occurs on an individual shop basis. While this is laudable, it can not effectively address the scale of training need as it currently exists in Mecklenburg County's construction industry. *The task force believes there is a displayed need for a joint training effort among all trades. This could best be addressed by the trade associations and HBA/MGCA joining together to create a training leadership position; a position in charge of making training courses happen among all trades, and to all construction mechanics, whether association members or not. The training leader would answer to a training committee of association representatives.*

Some tasks, which could be assigned to this role, include the following:

- *Identify areas of training need in all disciplines*
- *Negotiate with training providers (manufacturers, local experts, E&BS) to develop specific courses*
- *Develop individual program budgets*
- *Reserve classroom space*
- *Publicize class availability: by contractor fax/e-mail list, posting at material houses, etc*
- *Coordinate registration*
- *Assure product delivery*
- *Receive and evaluate feedback*

Other special areas of work would include the development of a comprehensive outreach program to non-association members, as well as the development of a broad industry wide curriculum (see Construction Academy in Training Incentives).

**Code Compliance Task Force
Program Development Final Report
To the Building Development Commission**

Industry Training Incentives

January 27, 2000

The Task Force discussed this issue very candidly. There was a general consensus that the lack of training springs from a number of sources. A tight labor market and employee demand minimizes individual concern over training, as well as some contracting companies willingness to invest in training. A general public preference for low price over skilled mechanics is also a hurdle. In the end, unless the line employee is required to train, either initially or on a continuing basis, they will not pursue it.

With the foregoing in mind, the Task Force recommends the following short and long term strategies on training incentives.

Short Term Initiatives

- **Journeyman's CEC:** in the mechanical, electrical and plumbing trades, revise the local ordinance to require a minimum number of hours of continuing education credit (CEC) training per year to renew a journeyman's card
- **Publicize the best contractors:** make a summary list available to the public of all contractors in all disciplines who meet or exceed the goal of 10% code defect rate.

Long Term Initiatives

- **Local authority:** pursue a state legislative initiative to allow Mecklenburg County to create a local program, similar to the journeyman's card, in the building trade discipline, perhaps a "builder's card". After the initiative is in place, shape the program to include a continuing education credit (CEC) training requirement annually to renew the builder's card.
- **Public awareness:** *if there is demand for skill, there will be incentive to train. Unfortunately, a large segment of the industry and the public at large doesn't connect poor workmanship with the lowest price. Conversely, training costs money and contractors who support training will not always be the cheapest. The trade associations should develop a joint public campaign emphasizing age old themes such as "it always costs slightly less to go first class", "you get what you pay for", etc. The public must value training by their consumer habits, as must the industry.*

Driven by public demand, there would be more need for formal training

- **CPCC long term agreement:** *the seven major trade associations should pursue an agreement with CPCC to provide the full range of training needs for the associations collectively. If an effective agreement cannot be reached, pursue the Contractors Academy concept outlined below.*
- **Contractors Academy:** *an Industry initiated joint training program providing a full range of training courses for all disciplines. Facilities would be provided at low, or no cost by HBA, E&BS and MCGA. Instructors would be assembled from the manufacturing industry, local experts and E&BS. Curriculums would be shaped by each trade association, but would probably including the following, and more*
 - introduction to a discipline; novice training
 - advanced discipline training; preparation for card exams
 - new materials or installation methods; by the manufacturers
 - code compliance in your discipline; by E&BS
 - building a quality house (or office, etc)

Ideally, training completion would be in stages and lead towards a range of certificates or proficiency levels, which would be recognized by the public and demanded in the long term, if not immediately.



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January 14, 2000

TO: Code Compliance Task Force
FROM: Marc Houle and Kathryn Reid
RE: Added Task Force initiative

We have attended many meetings where the success of the Express Plan Review program has been mentioned. This is a program the BDC pushed hard for and it clearly has succeeded in two areas. First, it satisfied a need for a special review service when projects just couldn't afford to "wait patiently" in line. Second, it has a review success rate (currently 85% +/-) much better than the average daily rate of 21%.

We think this idea should be applied to inspections. We've sat in many meetings where customers have told us they have a dire inspection need and would be willing to pay for special treatment. Typical situations are:

- Houses with impending closings
- Commercial upfits with looming occupancy dates
- Mad customers they'll do anything to satisfy
- Etc.

Unfortunately, this demand conflicts with the inspection priorities established by the construction community itself (we understand these were distributed and discussed by the Task Force in fall 98). We can't really justify letting these people "cut in line" during the day. So there seems to be a need for a special program to address this need. It could fall in the Task Force area of influence if it would also drive the inspection failure rate down.

We'd like to propose the Task Force add another detailed initiative to its' final report. We call this Express/ After Hours Inspections. Here's how it would work.

1. The Department would make a small percentage of inspection appointments available after hours. This would be designed to handle in the range of 5% +/- of inspection requests, at the most.
2. Customers would call or walk in during the day to reserve an appointment after hours for an inspection. Appointments would be on a first come first serve basis until all slots are filled.
3. The program would have a ceiling of daily slots available in each trade (perhaps 5-15), contingent on inspectors being available to perform the work.
4. An extra hourly fee would be paid for the inspection.
5. There would be two after hours slots: 6-9pm and after 9pm. Probably, there would be two rates.
6. Contractors would have to meet the inspector on site and wait while the inspection is performed. No exceptions allowed here. If you aren't present, the inspector leaves and you pay.
7. Mechanics would have to be available to make the necessary corrections on the spot. The inspector waits while all corrections are made. The goal is to have 100% inspections passing.
8. Contractors who perform poorly would not be allowed to use the service, to assure deserving contractors have access to it.

We think the idea has a lot of potential, and could drive the failure rate down as well, at least on a small number of projects. We encourage you to adopt it.

Code Compliance Task Force (CCTF) Program Development

Meeting #17

Wednesday, February 2, 2000

3:30pm – 5:00pm @ Cornelius Conference Room

1. Review of the 12/16 draft Final Report to the BDC

1A. Executive Summary review

- One grammatical correction in item 8.

1B. Benchmark: Failures not really failures review

- Incorporate the 3 new items as noted in 1/27 meeting notes.
- No other additions to the list were suggested.
- No comments were made on the balance of the list

1C. Revised Re-inspection Fee Structure review

- GW asked if E&BS had the latitude to round the code defect % at CO to next whole number.
- GA suggested a split at 15.49 (round down to 15) and 15.51 (round up to 16).
- Since BOCC specifically set the 15% mark, JB will check with county attorney on how much latitude we have here.

1D. Industry Code Defect Rate Reports review

- No comments on page 8
- On page 9, add a clarifying note at the bottom of 1/3 bar saying “Note: contractor with a lower failure rate would typically have fewer code defects on a project.”

1E. Inspector Failure Rate Report review

- On page 11, make two changes;
 - Designate the right column “inspectors county wide % failed”
 - Add 3 clarifying footnotes at bottom total line.

1F. Appeals Process review

- On page 12, incorporate the changes from 1/27 meeting notes
- No other comments

1G. Voluntary PIN Number Program review

- No comments

1H. Inspector Daily Reassignment review

- Department will delete 2nd bullet, as they do not think a short message will necessitate dividing by trade.

1I. Industry Basic Inspection Call In Steps review

- On pages 16 through 20, incorporate changes as noted in 1/27 meeting notes

1J. Industry Training Incentives review

- Incorporate changes as noted in 1/27 meeting notes

1K. Industry Training Outreach Programs review

- Incorporate changes as noted in 1/27 meeting notes

1L. MDT Tools Review review

- Page 23, clarify first bullet, changing last sentence to read “The intent on these inspections, is if failing the same detail twice, it will require a meeting on site with the contractor and inspector on the third inspection.”

1M. Code defect Library review

- No comments

1N. Review of CFD and MCFM in Defect rate Reporting

- No comments were made in the 1/27 discussion on this part of the report.

2. Discussed presentation to BDC on 2/9

- It was the consensus of all present to have E&BS make a brief formal presentation to the BDC on 2/9. All CCTF members are welcome to attend.
- The Department will mail copies to any CCTF members requesting.
- The report will be placed on the Internet later this month.

3. Request to revisit Doomsday List in 5/12/99 report

- Requesting party not present, so this was left unaddressed.

4. Wood Partners letter

- JB distributed 1/27 letter from Wood Partners and 1/28 E&BS response on behalf of CCTF (copies attached).
- No objections were voiced to the points made in the E&BS response.

5. Next meeting:

- This concludes the regular CCTF meetings.
- The next CCTF meeting will be the first quarterly meeting following 4/1 program startup, probably around July 1.

6. Thanks

Jim Bartl closed the meeting by thanking all CCTF members for the time and effort they've invested from the beginning of this Task Force in June, 1998. This project has covered 37 regular meetings (plus sub-committee meetings) over 20 months. This is a significant report and accomplishment, and all contributors should be proud of the end product



January 27 2000

Mr. James N. Bartl
Director of Code Enforcement
Mecklenburg County Engineering &
Building Standards Department

Dear Mr. Bartl

I am sorry we could not attend today's meeting of the Code Compliance Task force. As you know our primary business is Multi-Family Development and Construction. After reviewing the final CCTF Program Development Draft, we are very concerned about the following items

- There is a basic inequity in the system. The General Contractor on large projects, the permitting entity, is required to list MEP trades and pull their permits. With this Program Draft the General Contractor will be held monetarily responsible for the MEP's failures, yet the General Contractor is not qualified by state licensing to inspect the MEP's work
- The General Contractor is being penalized for damages caused by, or defects of, other trades' failed inspections. These are inspections that the General Contractor is not allowed to participate in. Building Standards currently has a security feature incorporated into IRIS that prevents anyone other than listed MEP contacts to access inspections. Since we are excluded from the process of these inspections it is unfair to monetarily punish the General Contractor if trade inspections fail.

We do understand that consistently failed inspections are a problem. However, the responsible party is the trade license holder, not the General Contractor.

- Inspectors are assigned the task of being judge, jury and prosecutor. We believe that the current draft puts too much power and authority with the field inspectors with little or no representation by the contractor.
- We are quite disturbed that the meeting minutes have not recorded all commentary raised by the Task Force members.

Mr. Bartl, unfortunately we were asked to attend this Task Force too late to constructively influence the basic ideas of this conceptual program. We applaud your effort to create a program such as this but have grave concerns over the implementation of this program and it's ultimate impact to the consumer. Please call me if you would like to discuss these items.

Sincerely,

Wood Partners

Karen Batten-Balas
Sr. Project Manager

Wood Partners is a Group of Limited Liability Companies

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MECKLENBURG COUNTY
Engineering & Building Standards Department

January 28, 2000

Karen Batten-Balas
Wood Partners
1308 East Fourth Street – Suite 200
Charlotte, NC 28204

Dear Ms. Batten-Balas,

I am responding to your Jan. 27 letter, which I received by fax late this morning.

I regret that you have last minute concerns regarding the Code Compliance Task Force (CCTF) Program Development Final Report Draft. Please note we did not conclude our work yesterday, so we will have a special CCTF meeting next Wednesday, February 2 at 3:30 p.m. in the Cornelius Conference Room, 700 N. Tryon Street. The Task Force intends to complete review of the final draft at that time. As always, the CCTF welcomes interested industry members to attend and comment.

Regarding your specific concerns, I would note the following.

1. Responsibility for code defects was debated at great length in the CCTF Concept stage. In the end, all industry members, including HBA and MGCA representatives, felt it was critical for the GC or builder to be responsible for all trades on site. Since the GC or builder selects and hires the subcontractor, they are responsible for the subcontractor's work. Subsequently, this responsibility was interpreted to include all defects on a site and any incentives or disincentives that result.

On a few occasions, the Task Force revisited this issue during the Program Development stage. In doing so, Task Force industry members, with few exceptions, consistently came down on the side of the original logic forged in the concept stage. The Task Force appears to be fairly solid on this issue, vesting ultimate responsibility for a project's code defects in the GC or builder.

2. The GC or builder is not precluded from participating in the M/E/P inspection process. Generally, E&BS welcomes anyone who wishes to be present, and while we do communicate M/E/P issues through the M/E/P permit holder, we recognize the GC or builder presence may help eliminate project miscommunication. It is true that an M/E/P subcontractor is the only one who can schedule inspections of their work. This security feature precludes a GC or builder from scheduling a M/E/P inspection before the work is ready.

Nevertheless, the Task Force industry members felt this security feature does not relieve the GC or builder from overall responsibility for the M/E/P subcontractor's work and any related defects. As noted in # 1 above, since the GC or builder is responsible for the entire project, and selects the M/E/P subcontractor to perform part of the work, they are ultimately responsible for that subcontractor's work. Basically, the GC or builder may delegate the work, but they may not delegate the responsibility.

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It should be noted either the GC or builder currently have immediate Internet access to all trade inspection results on their project. The only requirement to access this information is the M/E/P permit number, which should be readily available to the GC or builder. Should you require assistance in accessing our website (www.co.mecklenburg.nc.us/coeng) or inspections information on your project by Internet, please contact Sheila Sommers at 336-6198.

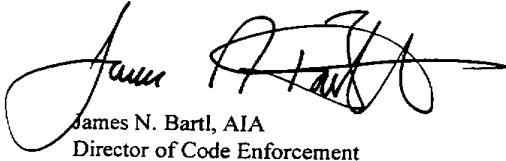
3. The proposed program does not change the inspectors work. Their inspection process and responsibilities remain the same. The program does replace a re-inspection fee structure, which clearly was ineffective, with a new structure we hope contributes to a significant reduction in Mecklenburg County's historically high code defect rate.

It is a matter of record, contractors have been strongly represented in every step of the Task Force work. In many ways, the Task Force industry members proposed the heart of the Revised Re-inspection Fee Program, not E&BS members. I might add CCTF monitoring of the program startup will continue on a quarterly basis. In addition, a formal appeals process is included in the program for the use of contractors.

4. In Program Development meeting #1, on June 17, 1999, E&BS queried what level of meeting note detail Task Force members desired in this phase. The consensus of all present was the notes should be more concise than in the Program Concept stage, identifying; a) large scale issues discussed, b) agreements reached, c) assignments for the next meeting, and d) the next meeting date and agenda. On occasion we also have included additional comments to clarify Task Force decisions, but generally we have adhered to the CCTF initial request on meeting note content.

Again, I encourage you to attend the final CCTF meeting on February 2, to contribute any other comments you may have on the Code Compliance Task Force Program Development Final Report Draft.

Yours truly,



James N. Bartl, AIA
Director of Code Enforcement

CC: Steve Phifer, MGCA BDC representative
Bobbie Shields, Director of E&BS

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