


**People are from Earth, Actuaries are from Neptune: The Habits of Effective Actuarial Communications**  
ASOP 41 – Actuarial Communications

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**What are our goals?**



1. Learn about the Actuarial Standards Boards guidelines for communication
2. Discuss challenges that arise when trying to stay in compliance with professional communication standards
3. Look at strategies to improve professional communication skills overall



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**Agenda**

- § Review ASOP 41
- § Discuss best practices and challenges in written communication, both formal and informal.
- § Discuss Actuarial exhibits, in particular best practices with Excel.



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### ASOP 41: Overview

Actuarial Standard of Practice on Actuarial Communications

- § Effective since May 1, 2011
- § Purpose
  - § Provides guidance to actuaries with respect to actuarial communications
- § Scope
  - § Applies to actuaries issuing actuarial communications within any practice area
- § Three primary areas of standard
  - § Definitions
  - § Identification
  - § Disclosures



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### Important Definitions

- § **Actuarial Services**—Professional services provided to a principal by an individual acting in the capacity of an actuary. Such services include the rendering of advice, recommendations, findings, or opinions based upon actuarial considerations.
- § **Actuarial Finding**—The result (including advice, recommendations, opinions, or commentary on another actuary's work) of actuarial services.
- § **Actuarial Communication**—A written, electronic, or oral communication issued by an actuary with respect to actuarial services.
- § **Actuarial Document**—An actuarial communication in any recorded form (such as paper, e-mail, spreadsheets, presentations, audio or video recordings, web sites, and court or hearing transcripts). Notes taken by someone other than the actuary are not considered actuarial documents.
- § **Actuarial Report**—The set of actuarial documents that the actuary determines to be relevant to specific actuarial findings that is available to an intended user.
- § **Intended User**—Any person who the actuary identifies as able to rely on the actuarial findings.
- § **Other User**—Any recipient of an actuarial communication who is not an intended user.




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### Requirements for Actuarial Communications



- § Identification: Some of the common areas of information we need to communicate:
  - § Scope of work – What did we do (and not do)?
  - § Methods and Procedures – How did we do it?
  - § Data and Assumptions – What was the basis?
  - § Actuarial findings – What was the result?
  - § Intended User (and Use) – How should the result be used?




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### Analysis of Issues and Recommended Practices

#### Requirements for Actuarial Communications

- § Form and Content
  - § Appropriate to the particular circumstances
- § Clarity
  - § Ensure each actuarial communication is clear and uses languages appropriate to the particular circumstances
- § Timing of Communication
  - § Issue each actuarial communication within a reasonable time period
- § Identification of Responsible Actuary
  - § An actuarial communication should clearly identify the actuary responsible for it.

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### Disclosures

#### Disclosures in any Actuarial Communications

- § Identification of the responsible actuary
- § Identification of actuarial documents
- § Disclosures in actuarial report
  - § Intended users
  - § Scope and intended purpose
  - § Material differences to prior report
  - § Acknowledgement of qualifications
  - § Cautions about risk and uncertainty
  - § Limitations or constraints
  - § Conflict of interest
  - § Relied upon information for which the actuary does not assume responsibility
  - § Information date
  - § Subsequent events

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### Requirements for Actuarial Communications



- § Most important issues:
  - § Intended User – Who is the report for and what is its intended use?
  - § Disclosures – Qualifications and limitations on Actuarial findings.

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### Recommendations

Compliance with ASOP 41

- § **Templates** – Recommend set up template to include relevant sections described in ASOP 41, in particular limitations and other disclosures.
- § **Plagiarize** – Reuse structures and wording from prior reports to establish structure. Easier to change than to create from scratch. However, must be careful as this can easily introduce errors (that may be propagated through several reports). Must re-read sections carefully even if used in several prior reports.

Recently found wording in report:

Should have been: "...we will use other companies..."  
Instead was: "...we will sue other companies..."

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### General Guidance for written communications:




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### Understanding Your Audience

- § **Structure** – Know your audience. Put important information first. The further back in a report the less likely it will be read.
- § **Actuaries** – ASOP 41 requires that Actuarial Reports be written for other actuaries. Reports must include all relevant data, assumptions, and technical details so that another actuary can understand methodology and selections. While required, this level of detail may be cumbersome for other audience.
- § **Product Managers** – Typically can understand actuarial detail (some are former actuaries). However, focus is different. Interested in total performance of product including distribution, growth, and profitability. Concerned with how numbers support their initiatives. To the extent known, structure report to provide key metrics.
- § **Management** – CEO, President, CFO, Board. Concerned with big picture performance. Typically do not have the time or inclination to read entire report. Should understand important information and make it easy to find.
- § **Agents/Marketing** – Audience most at odds with actuarial analysis. Focus is on growth and not profitability. Request for decreases based on marketing goals and not on risk exposure. Can be focused on individual policyholders while actuarial analysis is based on aggregate experience ("Why did this policyholder get a large rate increase? They have been with us for years and never had any claims.").

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**Language**  
Best Practices in Written Communication

§ **Extra words** ( imprecise qualifiers, feeling words, conversational tone) – Really, very, most,...

"Due to loss trends, the rate level indication is **really high**."

"Implementation of the new underwriting guidelines have reduced the indication **nicely**."

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**Language**  
Best Practices in Written Communication

§ **Repeated words** (Need thesaurus, how many different ways can you say change?) – Find different ways to refer to the same idea, at least within a paragraph. Repeated words make a report sound stilted or one-dimensional.

"Policyholder rate level increased significantly in Polk County. Policyholder impact was affected by the number of policies built prior to 1995. Policyholders in Polk County can expect this trend to continue going forward."

"Policyholder rate level increased significantly in Polk County, which was affected by the number of risks built prior to 1995. This trend is expected to continue going forward."

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**Language**  
Best Practices in Written Communication

**Definitive statements** (Actuarial results are projections based on assumptions. Beware of absolutes)

Reports are tools – Actuarial reports provide best estimate projections of future performance based on past experience, statistical metrics, and assumptions about the future. They are not absolute predictions and we should be careful how they are presented. Actuarial reports are one tool amongst many used to make decisions.

Understand issues associated with:

- § Business needs
- § Indications
- § Adverse Selection
- § Loss Ratios
- § Catastrophe Models
- § Predictive Models

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**Language**  
Best Practices in Written Communication

- § Run-on Sentences (at most two related ideas)

"Age of home is characteristic that is highly correlated with Water exposure due to the limitation put on Water losses for homes over the age of 40 years old and the ability for policyholders to purchase additional limits."

"Age of home is characteristic that is highly correlated with Water exposure. This is due to the limitation put on Water losses for homes over the age of 40 years old and the ability for policyholders to purchase additional limits."

- § Run-on Paragraphs – Each page should have at least one visual break.

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**Language**  
Best Practices in Written Communication

- § Too much description/too little description – Delicate balance.
- § Too much description loses the audience in the detail and causes important information to be missed.
- § Too little description may confuse and leave audience struggling to understand.

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**Language**  
Best Practices in Written Communication

- § Efficiency in language –
- § Sometimes language can be too efficient.
- § It is not always best to say everything in as few words as possible.
- § Can hide important information. Should make sure important ideas are explained in enough detail to be understandable.

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### Language

Best Practices in Written Communication

#### § Abbreviations/acronyms

- |        |        |          |
|--------|--------|----------|
| § PLR  | § DOI  | § ROL    |
| § ELR  | § OIR  | § IBNR   |
| § LAE  | § P&C  | § CAT    |
| § ALAE | § AOP  | § FCHF   |
| § ULAE | § AOB  | § TICL   |
| § DCC  | § HUR  | § FCHLPM |
| § AOE  | § NHR  | § RCS    |
| § AAL  | § PIP  | § LCM    |
| § PML  | § BOP  | § BF     |
| § IEE  | § IRPM | § NHW    |

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### Email: Guidance and Pitfalls



- § E-mail communication can be considered an Actuarial Communication.
- § ASOP 41 – Must use judgment when applying guidance.

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### Email: Guidance and Pitfalls

- § Intended for shorter communications addressing a few points or ideas. Too long and e-mail may just be skimmed and important points missed.

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**Email: Guidance and Pitfalls**

- § Avoid the "URGENT" Subject Line



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**Email: Guidance and Pitfalls**

- § Understand that tone and nuance do not come through email



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**Email: Guidance and Pitfalls**

Equanimity: The key to excellent professional communication

- § Do not send e-mails quickly, particularly with emotion.
- § The ability to maintain mental calmness, composure even in difficult situations
- § Keeps situations from snowballing
- § Sets the tone for others and deescalates situations



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### Email: Guidance and Pitfalls

- § Use of caps or emojis should be avoided (unless the recipient is well-known)

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### Excel's Role in Actuarial Communication

- § A common "recorded form" of an Actuarial Document
- § Spreadsheet style often varies between individual
- § Lack of consistency hurts "clarity"
- § Characteristics of a well-designed spreadsheet
  - § Consistent, efficient, and transferrable
  - § Organized and intuitive information flow
- § Another actuary qualified in the same practice area could make an objective appraisal of the reasonableness of the actuary's work

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### Excel at Excel

Have you been trained?

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### Excel at Excel

Best Practice # 1 – Before you start

- § Is Excel the right tool for your task
- § Consider alternative software that may be more appropriate
- § Start with the end in mind



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### Excel at Excel

Best Practice # 2 – Introduction / summary sheet

- § Introduce the spreadsheet for other users
- § Brief description of the spreadsheet
- § Potential items to include
  - Data input sources
  - Control total checks
  - File creator and reviewer
  - Changes from prior version



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### Excel at Excel

Best Practice # 2 – Example

- § Sample summary sheet



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### Excel at Excel

Best Practice # 3 – Establish internal standards

- § Developed and enforced internally
- § Can range from file name convention, folder structure, cell formatting, or color coding
- § Increases life span of work product



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### Excel at Excel

Best Practice # 3 – Examples

Color Coding

- Regular formula
- Hardcoded data
- linked data
- Needs special attention
- To be checked
- I don't know what's going on

Folder Structure

|          |                   |                   |
|----------|-------------------|-------------------|
| Folder 1 | 1/1/2019 10:10:10 | 1/1/2019 10:10:10 |
| Folder 2 | 1/1/2019 10:10:10 | 1/1/2019 10:10:10 |
| Folder 3 | 1/1/2019 10:10:10 | 1/1/2019 10:10:10 |
| Folder 4 | 1/1/2019 10:10:10 | 1/1/2019 10:10:10 |

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### Excel at Excel

Best Practice # 4 – Keep your formula simple

- § Avoid long, complicated formula
- § Avoid having hardcoded values embedded in formula
- § Balance simplicity and efficiency



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### Excel at Excel

Best Practice # 4 – Examples

§ Long and complicated formula



§ Hardcode values embedded in formula



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### Excel at Excel

Best Practice # 4 – Examples

PG-13

| Year | Revenue | Expenses | Profit |
|------|---------|----------|--------|
| 2011 | 100,000 | 75,000   | 25,000 |
| 2012 | 120,000 | 90,000   | 30,000 |
| 2013 | 150,000 | 110,000  | 40,000 |

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| Year | Revenue | Expenses | Profit |
|------|---------|----------|--------|
| 2011 | 100,000 | 75,000   | 25,000 |
| 2012 | 120,000 | 90,000   | 30,000 |
| 2013 | 150,000 | 110,000  | 40,000 |

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### Excel at Excel

Best Practice # 5 – Print and review

§ Do not assume your audience is going to review your work in Excel

§ Print rages / page breaks

§ Readability

§ Formula complexity

§ Footnote clarity



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**Excel at Excel**

Best Practice # 6 – File maintenance

- § Delete stray notes
- § Make comments visible
- § Group, rather than hide rows / columns
- § Delete duplicative versions




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**Case Study: Exhibit Design**

- § You are asked to review an analysis created by your colleague
- § In your opinion, does the exhibit design qualify for effective actuarial communication
- § What would you have done differently, if any?

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**SMITHS PERSONAL LIBRARY**  
**BOOKS**  
**EXHIBIT DESIGN**

| INDUSTRY | BOOKS    | BOOKS    | BOOKS    | BOOKS    | BOOKS    | BOOKS    | BOOKS    | BOOKS    | BOOKS    | BOOKS    |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) | (NO. OF) |
| 1        | 25       | 25000    | 111289   | 205146   | 19528    | 10000    | 13028    | 10000    | 10000    | 10000    |
| 2        | 1200     | 1122188  | 551828   | 173258   | 18888    | 11000    | 11888    | 18888    | 18888    | 18888    |
| 3        | 2048     | 330482   | 283888   | 183828   | 14888    | 10000    | 11700    | 10000    | 10000    | 10000    |
| 4        | 2048     | 330482   | 283888   | 183828   | 14888    | 10000    | 11700    | 10000    | 10000    | 10000    |
| 5        | 2897     | 1122881  | 3811888  | 881888   | 10000    | 10000    | 14128    | 13818    | 13818    | 13818    |
| 6        | 2928     | 880888   | 238812   | 111818   | 18128    | 18888    | 13888    | 13888    | 13888    | 13888    |
| 7        | 1875     | 390748   | 842818   | 478288   | 18878    | 18888    | 13888    | 14888    | 14888    | 14888    |
| 8        | 1200     | 282828   | 122788   | 143878   | 18188    | 18888    | 14888    | 15888    | 15888    | 15888    |
| 9        | 1788     | 282828   | 122788   | 143878   | 18188    | 18888    | 14888    | 15888    | 15888    | 15888    |
| 10       | 787      | 282828   | 122788   | 143878   | 18188    | 18888    | 14888    | 15888    | 15888    | 15888    |
| 11       | 588      | 152888   | 122888   | 182888   | 18778    | 20000    | 15888    | 11288    | 11288    | 11288    |
| 12       | 187      | 112888   | 112778   | 182888   | 18888    | 21000    | 12788    | 12788    | 12788    | 12788    |
| 13       | 188      | 188038   | 107888   | 182888   | 18878    | 23000    | 14888    | 14888    | 14888    | 14888    |
| 14       | 188      | 152888   | 122888   | 182888   | 18778    | 25000    | 14888    | 14888    | 14888    | 14888    |
| 15       | 123      | 112348   | 108888   | 148878   | 18128    | 24000    | 12000    | 12048    | 12048    | 12048    |
| TOTAL    | 19178    | 8888888  | 3288888  | 888878   | 18888    | 18888    | 12000    | 12048    | 12048    | 12048    |

BOOKS  
 1 -C-18  
 2 -H-18  
 3 -H-18  
 4 -H-18

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| Mitsubishi Chemical Americas<br>Mitsubishi Chemicals Americas PLC |                  |               |          |                 |            |         |                   |            |                  |                  |  |
|---|------------------|---------------|----------|-----------------|------------|---------|-------------------|------------|------------------|------------------|--|
| Detailed Financial Results  |                  |               |          |                 |            |         |                   |            |                  |                  |  |
| FY 2018   |                  |               |          |                 |            |         |                   |            |                  |                  |  |
| Number  | Company Expenses |               |          | Interest Income |            |         | Financial Results |            |                  | Prepared Results |  |
|   | Current Expense  | Local Expense | Interest | Rate            | Local Rate | Current | Interest          | Net Income | Prepared Results |                  |  |
| 1   | 257              | 227           | 2,917    | 22.7%           | 1.2%       | 130     | 150               | 130        | 130              | 130              |  |
| 2   | 1,235            | 1,232         | 1,268    | 37.2%           | 1.5%       | 150     | 170               | 150        | 150              | 150              |  |
| 3   | 2,449            | 2,395         | 2,847    | 35.1%           | 1.4%       | 120     | 130               | 120        | 120              | 120              |  |
| 4   | 2,449            | 2,329         | 1,390    | 37.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 5   | 179              | 1,681         | 1,991    | 36.3%           | 1.2%       | 140     | 150               | 140        | 140              | 140              |  |
| 6   | 1,425            | 1,437         | 1,333    | 35.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 7   | 1,850            | 1,888         | 1,880    | 36.0%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 8   | 1,934            | 1,476         | 1,384    | 37.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 9   | 1,550            | 2,371         | 1,330    | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 10  | 30               | 1,006         | 974      | 35.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 11  | 50               | 1,019         | 974      | 35.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 12  | 80               | 1,119         | 707      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 13  | 88               | 1,089         | 937      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 14  | 94               | 1,041         | 767      | 35.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 15  | 97               | 1,029         | 867      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| Total   | 18,478           | 18,403        | 12,852   | 36.2%           | 1.2%       |         |                   |            |                  |                  |  |

| Mitsubishi Chemical Americas<br>Mitsubishi Chemicals Americas PLC |                  |               |          |                 |            |         |                   |            |                  |                  |  |
|---|------------------|---------------|----------|-----------------|------------|---------|-------------------|------------|------------------|------------------|--|
| Detailed Financial Results  |                  |               |          |                 |            |         |                   |            |                  |                  |  |
| FY 2017   |                  |               |          |                 |            |         |                   |            |                  |                  |  |
| Number  | Company Expenses |               |          | Interest Income |            |         | Financial Results |            |                  | Prepared Results |  |
|   | Current Expense  | Local Expense | Interest | Rate            | Local Rate | Current | Interest          | Net Income | Prepared Results |                  |  |
| 1   | 327              | 239           | 2,118    | 22.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 2   | 1,231            | 1,211         | 1,269    | 37.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 3   | 2,446            | 2,386         | 2,847    | 35.1%           | 1.2%       | 120     | 130               | 120        | 120              | 120              |  |
| 4   | 2,446            | 2,329         | 1,390    | 37.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 5   | 179              | 1,681         | 1,991    | 36.3%           | 1.2%       | 140     | 150               | 140        | 140              | 140              |  |
| 6   | 1,425            | 1,437         | 1,333    | 35.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 7   | 1,850            | 1,888         | 1,880    | 36.0%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 8   | 1,934            | 1,476         | 1,384    | 37.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 9   | 1,550            | 2,371         | 1,330    | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 10  | 30               | 1,006         | 974      | 35.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 11  | 50               | 1,019         | 974      | 35.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 12  | 80               | 1,119         | 707      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 13  | 88               | 1,089         | 937      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 14  | 94               | 1,041         | 767      | 35.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 15  | 97               | 1,029         | 867      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| Total   | 18,170           | 18,022        | 12,658   | 36.2%           | 1.2%       |         |                   |            |                  |                  |  |

| Mitsubishi Chemical Americas<br>Mitsubishi Chemicals Americas PLC |                  |               |          |                 |            |         |                   |            |                  |                  |  |
|---|------------------|---------------|----------|-----------------|------------|---------|-------------------|------------|------------------|------------------|--|
| Detailed Financial Results  |                  |               |          |                 |            |         |                   |            |                  |                  |  |
| FY 2016   |                  |               |          |                 |            |         |                   |            |                  |                  |  |
| Number  | Company Expenses |               |          | Interest Income |            |         | Financial Results |            |                  | Prepared Results |  |
|   | Current Expense  | Local Expense | Interest | Rate            | Local Rate | Current | Interest          | Net Income | Prepared Results |                  |  |
| 1   | 317              | 237           | 2,118    | 22.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 2   | 1,211            | 1,211         | 1,269    | 37.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 3   | 2,436            | 2,386         | 2,847    | 35.1%           | 1.2%       | 120     | 130               | 120        | 120              | 120              |  |
| 4   | 2,436            | 2,329         | 1,390    | 37.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 5   | 179              | 1,681         | 1,991    | 36.3%           | 1.2%       | 140     | 150               | 140        | 140              | 140              |  |
| 6   | 1,425            | 1,437         | 1,333    | 35.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 7   | 1,850            | 1,888         | 1,880    | 36.0%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 8   | 1,934            | 1,476         | 1,384    | 37.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 9   | 1,550            | 2,371         | 1,330    | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 10  | 30               | 1,006         | 974      | 35.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 11  | 50               | 1,019         | 974      | 35.1%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 12  | 80               | 1,119         | 707      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 13  | 88               | 1,089         | 937      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 14  | 94               | 1,041         | 767      | 35.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| 15  | 97               | 1,029         | 867      | 36.2%           | 1.2%       | 130     | 140               | 130        | 130              | 130              |  |
| Total   | 17,872           | 17,824        | 12,464   | 36.2%           | 1.2%       |         |                   |            |                  |                  |  |

Case Study: Exhibit Design

What have we done?

Here is where we started

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Case Study: Exhibit Design

What have we done?

Here is where we ended

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Thank you

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