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## Individual Income Tax

### Pre-Edit Project



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**South Carolina Department of Revenue**

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**Problem Statement:**

There are a high number of Individual Income Tax pre-edit errors each year taking a large amount of time to clear the errors and release the daily run. This project attempts to find ways to decrease the number of pre-edit errors, reducing the time needed to clear the errors and releasing the daily run in the shortest amount of time.

Part of the South Carolina Department of Revenue's mission statement includes continuous improvement of the quality of services and products with values of customer focus and teamwork. Improving the pre-edit process will help improve the turn around time for returns that kick to the Pre-Edit Error System. It will also provide better results for internal and external customers of the process. Teamwork will help ensure success of any changes made.

**Background:**

Individual income tax returns, whether filed by paper or electronic means, must have certain information before they can be loaded into the agency's mainframe computer system for processing and resolution. If required information is not present or is invalid, the returns kick out to the Pre-Edit Error System so that updates can be made. Some examples of this information include Social Security number, filing status and an address in a valid format. Batching issues with different types of forms are included as pre-edit errors as well. For example, long forms must be in separate batches than short forms. There is one particular situation on an electronically filed return where the return is forced to the Pre-Edit Error System so that the return can be manually manipulated prior to getting on the mainframe. A listing of the paper Pre-Edit Checks can be found in

Attachment # 1. These pre-edit errors are cleared as a high daily priority so that the paper returns can be released from the Data Control area to the Records Section for filing and storage. Records Section waits on the returns so that they can perform other duties with the run. Electronically filed returns are billed as having faster processing times over paper filing. Electronic errors must be cleared as priority as well so that customer satisfaction with turn around time is achieved.

**Some issues to be considered by this project:**

1. **The North Carolina Rule.** Electronic returns that are filed for taxpayers who fall under this section of law need manual manipulation to pass through to the mainframe system. South Carolina law states if married taxpayers are residents of a state that requires our residents to file separately when only one spouse earns income there, South Carolina will treat their residents in a similar manner. Residents of North Carolina are often the taxpayers who fall under this category. Thus, the name "North Carolina Rule." These were the majority of the electronic errors. A few other software vendor issues would kick out as well.
2. **Missing returns.** When returns are processed to the mainframe and calculation problems are detected, a charge slip is generated. This slip allows a Records Section employee to pull the return from the files, place the charge slip in the file to hold its place and send the return to the proper section for error correction. At times, there would be charge slips generated, and when Records staff tried to retrieve the return, the return would not be in the file at all. The return would be "missing." There were instances when it would take days and sometimes months for the returns to be located.

3. **Returns without Social Security Numbers (SSN)/Individual Taxpayer Identification Number (ITIN).** All returns must have an SSN/ITIN before it can pass through to the mainframe system. When the taxpayer does not provide a number, a generic number is forced in its place so that processing can continue.
4. **Report structure.** The structure of the Pre-Edit Error Report (TXPII110) was designed in a computer based format for programmers to use to extract information. Over the years, it has also been used by default by employees to perform their functions in the process since no other report existed. The form layout is difficult to read. Some information needed to clear errors is not shown on the report, and the information shown is hard to decipher.
5. **Where the function is best housed.** The function was moved to the IIT Section years ago. Is this still the best location for performing this function? In March 2006, some stakeholder sections in the process moved to a separate location at Market Pointe. The move has created new issues and exacerbated others.

**Data Collection:**

Prior to beginning this project, there were data collection procedures already in place for the Pre-Edit Error System. The numbers of pre-edit errors have been tracked for seven years. Attachment # 2 shows the breakdown of error types by processing year. The numbers show that electronic errors have historically increased each year since 2002. In contrast, the number of paper return errors has generally been decreasing over the years. In year 2001, software vendor issued created the large number of errors shown. Over these years, computer enhancements have been able to help decrease the number of paper errors. Today, paper return errors still outweigh the number of electronic errors.

The amount of time it takes to release the run after clearing paper return errors was tracked daily in 2006 (See Attachment #3). Last year, 504 hours were expending in correcting paper pre-edit errors. Based on a 7.5 hour day, 67.2 days have been used to clear the paper errors. This equates to 26% of work time for a full time employee. Using the total number of paper errors received of 7638, it has been calculated that it takes an employee on average 4 minutes to clear a paper error.

While data had been collected in the past for the pre-edit process, there was no current process deployment flowchart. Meetings were held with involved stakeholders to create the current process deployment flowchart (see Attachment #4). The sections in the process include: Mail Processing, IIT Verification, Data Control, Data Entry, IIT and Records.

Mail Processing opens and sorts agency mail. IIT Verification manually reviews returns the ensure critical information is present and valid. Data Control controls the flow of batches of returns through the process and is responsible for getting money to the bank. Data Entry keys information from paper returns to the mainframe for system processing. IIT reviews and corrects errors and audit possibilities identified by the automated system. Records retrieves and re-files returns upon request.

From September 4, 2006 to December 19, 2006, numbers of pre-edit errors and time taken to release the run have been tracked in addition to tracking the section where the

error originated. Tick Sheets were used to obtain this information (see Attachment #5). The pie chart (Attachment #6) shows the dissection of the errors by originating section.

### **Discussion of the Issues and Proposed Resolution:**

#### **The North Carolina Rule:**

South Carolina Code of Laws Section 12-6-5000(C )(2) states:

“If a nonresident taxpayer is a resident of a state which does not allow a resident of South Carolina to file a joint return with a spouse, the nonresident taxpayer shall file a separate South Carolina income tax return from the spouse. The nonresident taxpayer shall calculate taxable income on a federal return as a married person filing separately to determine how the separate federal taxable income is calculated.”

North Carolina is one of those states that required other states' residents to file separately. Therefore, South Carolina made North Carolina residents file separately. This is often referred to as the “retaliatory” law. Since there are numerous taxpayers who live in border areas of the two states, this law was often encountered in filing of income tax returns. While electronic filing of returns in this situation was allowed, many of these returns kicked out to the Pre-Edit Error System and required manual manipulation of the return in order to send it into the mainframe system for processing. The electronic federal/state transmission often carried the incorrect filing status or was missing a spouse name or SSN. Once on pre-edit, an employee must research the return to see which spouse should have been filing separate with SC. During peak times, the number of electronic “North Carolina” returns could total hundreds per day. And since electronic filing is supposed to be the faster method of filing, these returns had to be completed as a

daily priority. At times, the entire staff of the IIT Section would work to get these returns cleared as priority.

Some resolution to this came from the unlikely source of the North Carolina Legislature. This past legislative year, the General Assembly of North Carolina modified their law to allow the taxpayers to choose the option of filing separately or jointly (see Attachment #7). Since their law no longer requires residents of other states to file separately, the SC law would no longer apply to residents of North Carolina. This change is effective for tax years beginning on or after January 1, 2006. So these North Carolina residents who file electronically with SC will no longer be forced through the pre-edit process. In calendar 2005, there were 4949 electronic returns sent through to the Pre-Edit Error System. For 2006, errors should drop to a fraction of this number. If the average 4 minute time to clear a paper pre-edit error is applied to the last year's number of electronic errors that may be avoided this processing year, an estimated 300+ hours of time would be saved by not having the "North Carolina" returns on pre-edit. For a full time employee, this equates to 40 days or 15% of work time.

**Missing Returns:**

While on a walking tour of the process, it was determined that some of this issue was stemming from miscommunication. After pre-edit errors were cleared and the run was ready to be released, an e-mail was sent to all sections in the pre-edit process. However, the Data Control staff had yet to pull batch cover sheets off the files before the Records staff could pick them up. Records staff was unaware of this. When they received the email that the run was released, they would pick up the run. In some cases, Data Control

staff had held some of the run because they had not completed removing the cover sheets. Records staff would not know they did not get the full run. When trying to pull returns for their charge slips, there would be returns missing from the files. The "missing returns" would still be in Data Control.

After flowcharting the process, a small but significant change was immediately made to the process. The IIT section would e-mail only Data Control staff that the run could be released. When batch cover sheets have been removed, Data Control staff would e-mail Records staff to pick up the run. This should reduce the amount of "missing" returns Records staff encounters since more returns will be available for pick up once Data Control removes the cover sheets.

**Returns without SSNs or ITINs:**

In order to be fully processed through the system, all IIT returns must have some form of SSN. In some cases, such as for non-resident aliens, the taxpayer cannot obtain an SSN, but may still be required to file an income tax return. These taxpayers can apply for an Individual Taxpayer Identification Number (ITIN) through the Internal Revenue Service (IRS). However, there is no formal exchange of these numbers between SCDOR and the IRS. Generally, the taxpayer will file a SC return without a number.

Refund returns without SSNs should be pulled out of processing line by the IIT Verification area and sent back to the taxpayer until an SSN or ITIN can be supplied. Some of these would get past the verifiers and make it through to the Data Entry Section. In the past, these returns have been processed using the 999-99-9999 SSN. The system

considers this a valid SSN since it is in the correct format. This causes some issues in our system and treats these taxpayers as filing using duplicate SSNs. In order to stop erroneous information getting through to the mainframe, data entry operators were instructed to code the return to force it to the pre-edit system. The taxpayer would be researched to see if an SSN or ITIN could be located. If one was found, it was added to the file and passed through the pre-edit system. Otherwise, the return would be deleted from the system and a letter would be generated to the taxpayer requesting the SSN/ITIN so that processing could be completed.

To stop so many of these from getting through the system, adjustments have been made to this process. If the data entry operator locates a return without an SSN/ITIN, she would key a 000-00-0000 SSN instead of the 999-99-9999. The 000-00-0000 SSN is not valid per the processing program and is considered a "missing" SSN. A letter to the taxpayer is automatically generated by the system. This alleviates the manual intervention when sent through the pre-edit process and decreases the number of pre-edit errors. Also, as a back up to the eyes of the data entry operator, an edit was placed into the keying program. If a data entry operator inputs the 999-99-999 SSN, an error message will pop up and remind her to key the 000-00-0000 SSN in its place. In the end, a letter is generated to the taxpayer by the system requesting the true SSN/ITIN. This is generally the same result as if the return had been sent through the Pre-Edit Error System but without the manual intervention resulting in less pre-edit errors.

**Report Structure:**

The structure of the pre-edit error report has not been changed from its original format used by computer programmers to extract information from the file. It is not user friendly or easy to read (see Attachment #9). Discussions were held with the current employees who use the report to pull error returns and clear errors to determine information needed on the report and a useful format display. A work request has been submitted to modify the report to show vital information needed to correct the pre-edit errors in a clearer fashion. The proposed report format (attachment #10) will also include the Data Entry operator's ID in case the operator needs to be contacted for issue resolution or additional training so that future errors are avoided. With the easier to read format, the information needed to correct the error is at the employee's fingertips, reducing the time needed to clear the pre-edit errors.

**Where the function should be housed:**

The pre-edit function was initially with the Data Control area. The function was moved under the IIT Section in 1998 along with the employee primarily responsible for performing the duties. The knowledge base needed to perform the duties was shared by both sections. The employees in the IIT section also allowed for backup to the one responsible employee. However, communication between stakeholder sections remained an issue.

In March 2006, the Data Control section and the rest of the processing line physically moved from the Gervais Street location to another building at Market Pointe. The IIT

Section is the only section of the pre-edit process to remain at Gervais. While issues existed prior to the Market Pointe move, these issues have expanded and new issues have surfaced. One issue is the physical routing of the returns needed to correct the errors between locations in a timely fashion. Mail delivery volumes are often high between locations and interfere with this one function. There have been thirteen times documented between March and December 2006 when the returns would be sent by Market Pointe personnel and would not be able to be located by the IIT section personnel until hours or even a day or two later. This, of course, caused the run to be released late and delayed all other functions that followed.

#### **Conclusion and Implementation:**

It is the recommendation of this project that the function of pre-edit errors for paper returns be moved to the IIT Verification area at Market Pointe. At first thought, Data Control seemed to be the better area to handle all of the pre-edit process since they had pulled returns for correction and released the run daily. Also, Data Control had previously handled the entire process. However, after discussions with the manager of both the Data Control and IIT Verification sections, it was determined that IIT Verification would provide a better span of control and staffing opportunities. This area has the skill set and first hand knowledge of the pre-edit process and its importance. If the entire pre-edit process was at one location, Market Pointe, the physical transport issue between buildings would be alleviated. In reviewing data collected regarding the point of origination of the errors, Data Entry and IIT Verification accounted for at least 79% of the pre-edit errors. The steps of the current process flowchart (attachment #4) highlighted in yellow represent areas where errors originate.

If these sections were more involved in the resolution of the pre-edit errors, additional training or issue resolution may help decrease the number of errors that kick out every year. The IIT Verification area was the point of origination of two-thirds of the errors kicking out to the pre-edit process and is in close proximity to the Data Entry area which also contributed to the pre-edit error count. Corrections could be made more easily and communication between the sections would be easier since the employees of the sections actually sit very close together. No additional equipment would be needed in order to complete this function. The section responsible for pulling and forwarding the returns could now also correct the problems and send the returns on their way. No hold up waiting on other areas. See Attachment #8 for the proposed process.

The IIT Section will maintain the electronic portion of pre-edit so that any remaining issues can be communicated to the Electronic Services area in charge of software vendor notification.

Preliminary meetings have been held to discuss the transfer of duties from the IIT Section to the IIT Verification section in February. The IIT employee now responsible for pre-edit will be charged with training the IIT Verification employee(s) who will assume the duties. Training will take place at Market Pointe so that logistics can be worked out on the spot. Current step-by-step procedures will be updated. The new employee will be given access to reports and data collection tools to use. The proposed flowchart will be shared and discussed with all stakeholder sections. It will be utilized and updated as deemed

necessary. The new employee, once trained, should be able to perform other functions in addition to the pre-edit due to the time savings of overall reduced errors.

**Evaluation of Proposed Process:**

The number of errors and time to release run will continue to be reported daily. Employees in both the IIT Section and the IIT Verification sections will monitor the reports for discrepancies and issues that need to be addressed. "Missing return" charge slips will be monitored by Records staff and issues addressed in a more timely fashion since they will have a clearer understanding of the flow of work.

**Summary:**

- Electronically filed returns that formerly fell under the North Carolina Rule should no longer be subject to the pre-edit error checks. This has an estimated time savings of 300+ hours of error correction time or 15% of an FTE's time.
- A change in the notification stream should decrease the number of "missing" returns.
- Returns without SSN/ITIN should no longer kick to pre-edit and flow through to the mainframe without manual intervention.
- The pre-edit error report will be revised so that information is displayed in a more readable and useful format. This should help decrease the time it takes to clear a pre-edit error and may even help reduce the number of future errors.
- The paper pre-edit function is being moved to the IIT Verification Section. The workflow should move faster and communication between stakeholder sections

should be improved. The number of pre-edit errors should be reduced since the employees creating the errors will be the ones helping to fix the errors.

- Customer service of both internal and external customers should be improved by the proposed and implemented enhancements to the pre-edit process. Teamwork and support will play a big role in the success of the process. Each of these items help support the agency's mission and values statement.

By reducing the number of pre-edit errors between electronic and paper filing methods, time spent to correct the errors will be reduced as well. This time can be used to focus on other duties and hopefully afford time and effort to help improve processes in other areas.

## **Attachment #1**

### **Pre-Edit Checks for Paper Returns**

1. Preaddressed batch with a return with address (Non-preaddressed return in a preaddressed batch).
2. Estimated tax carryover is less than \$1
3. Manual Code is 15 (form in wrong batch) – done in Data Entry
4. Missing Address – Non-Preaddressed
5. Age 65 Exemption Field – valid only for tax years greater than 1996
6. Under age 6 exemption – valid only for tax years greater than 1994
7. Tax Credit record is missing to the prior year's DLN for preaddressed return
8. Missing a tax credit record for a return in a tax credit batch. (A fake T record is created and IIT completes it.)
9. Tax Credit in a non-tax credit batch with something on the non-refundable tax credit line- re-batched and sent back through to be keyed
10. A tax credit batch with nothing on the non-refundable tax credit line – re-batched and sent back through to be keyed if needed or either makes corrections.
11. Number of exemptions non-numeric (Spaces or alpha)
12. Invalid Filing Status – could be missing or out of the filing status range (1-5)
13. If a joint filing status and only has one TP name or if joint filing status missing spouse's SSN
14. If a non-joint return and have a spouse's name or SSN on return
15. Non-preaddressed missing primary's name or SSN
16. Invalid form type in header
17. Invalid Manual Code
18. Invalid Transaction code – index back year, index audit
19. Invalid State – Abbreviations
20. Invalid Tax Year – tax year non-numeric or blank, tax year greater than current tax year
21. Preaddressed or non-preaddressed batch and not the current tax year (all back year returns keyed as non-preaddressed)
22. Invalid received (Postmark) date – non-numeric or spaces and cannot be greater than currently date
23. Invalid DLN – spaces or non-numeric
24. Non-delinquent return in a delinquent batch based on the received date
25. Joint return – spouse and primary SSN the same
26. TC Records – the DLN, SSN and tax year must match for both detail and TC
27. All other audit fields must have numeric data
28. Invalid county codes (Valid 1-46, 88, 99)

**Attachment # 2**

**Pre-Edit Error Numbers by Processing Year**

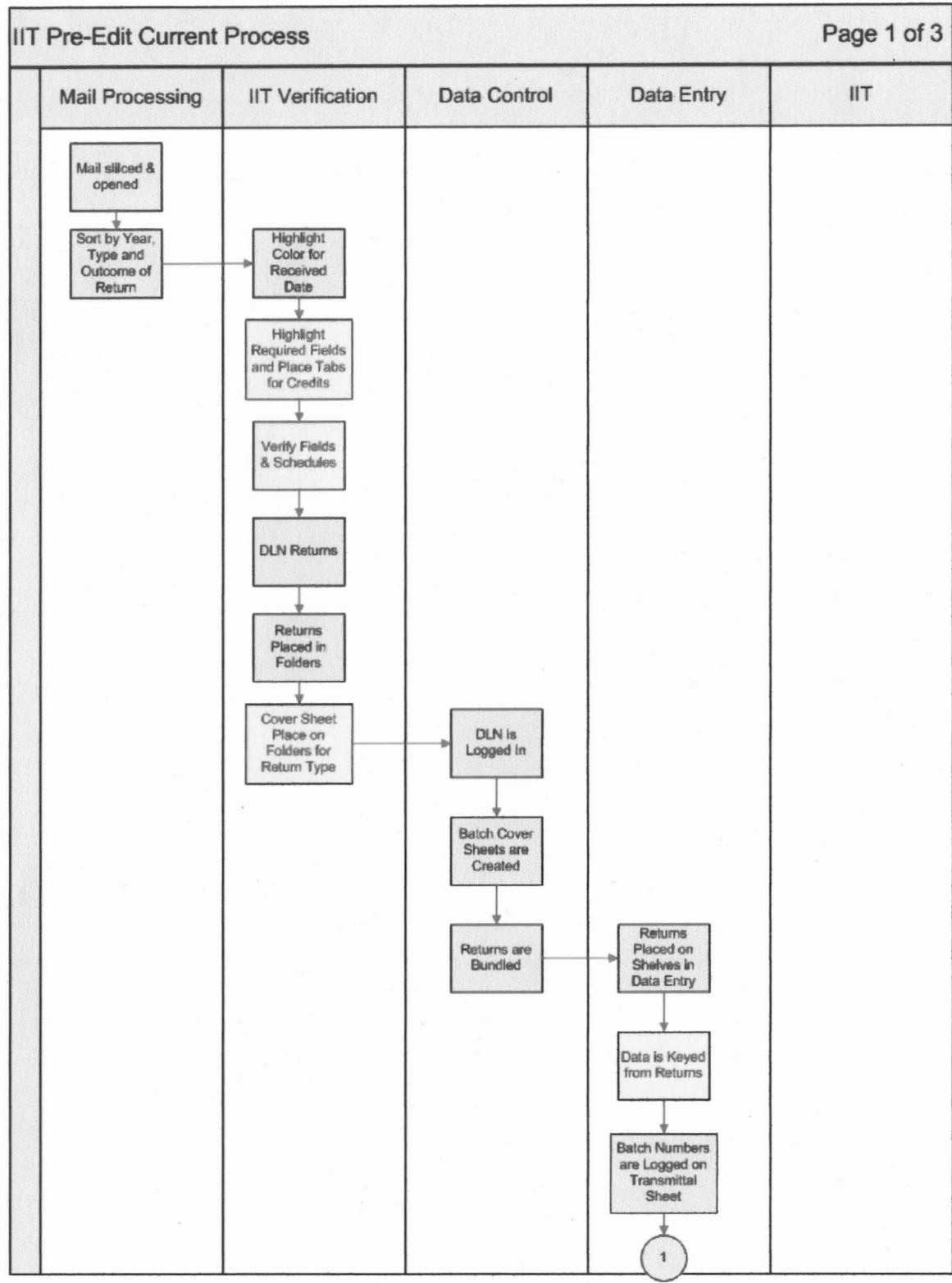
<b>Year</b>	<b>Total Paper</b>	<b>Total Electronic</b>	<b>Grand Total</b>
2000	15572	0	15572
2001	23861	16738	40599
2002	22491	1402	23893
2003	11031	1910	12941
2004	8319	2629	10948
2005	9510	2924	12434
2006	7638	4949	12587

**Attachment #3**

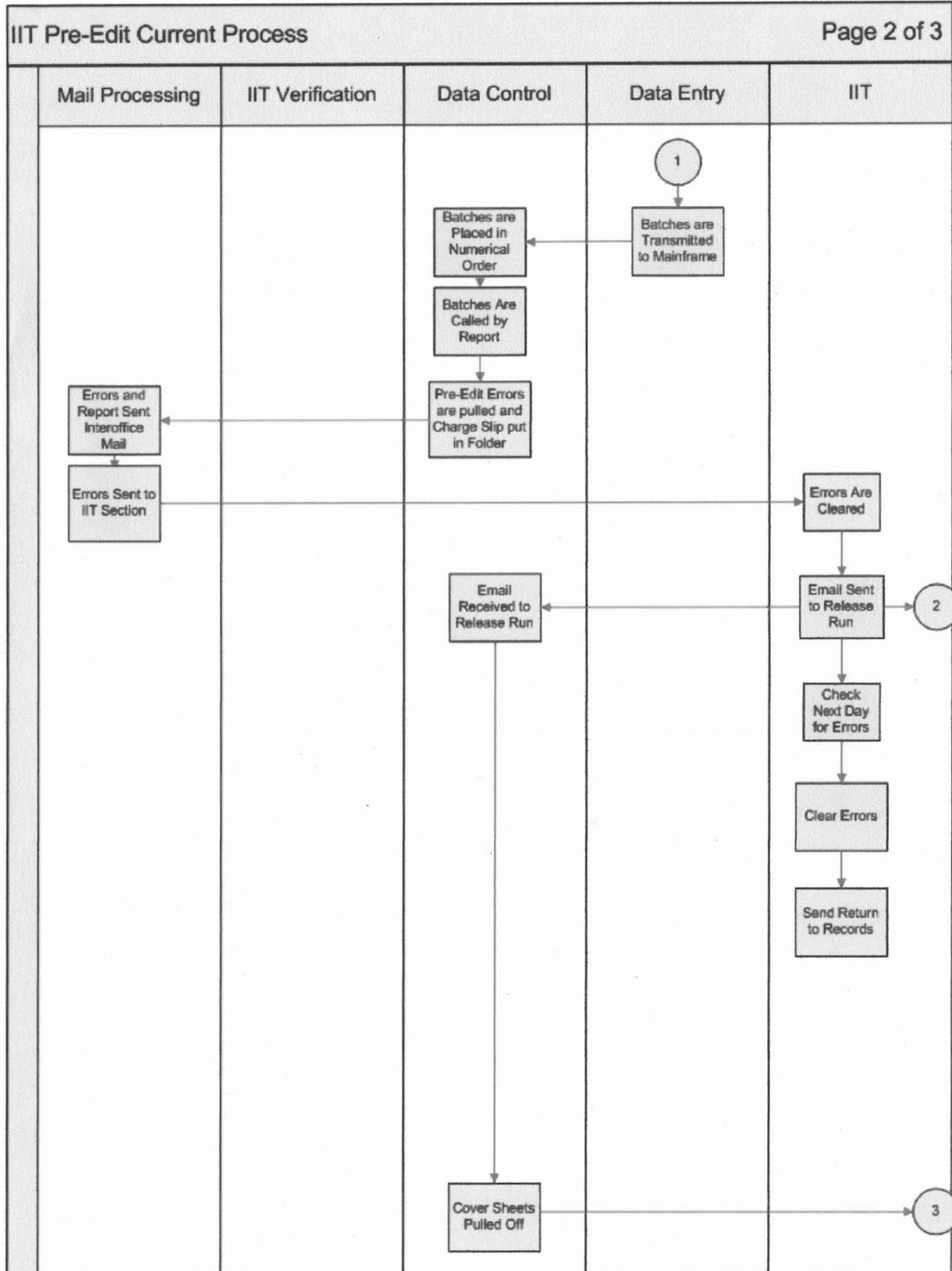
**2006 Pre-Edit Error Totals with Time**

<b>Month</b>	<b>Paper Total</b>	<b>Electronic Total</b>	<b>Grand Total</b>	<b>Paper Hours</b>
January	77	257	334	17.5
February	811	1975	2786	123
March	1497	1099	2596	112
April	2286	1390	3676	120
May	1524	45	1569	50.25
June	748	27	775	25.5
July	96	14	110	6
August	175	26	201	10
September	113	21	134	11.5
October	110	95	205	15
November	152	0	152	9.25
December	49	0	49	4
<b>Totals</b>	<b>7638</b>	<b>4949</b>	<b>12587</b>	<b>504</b>

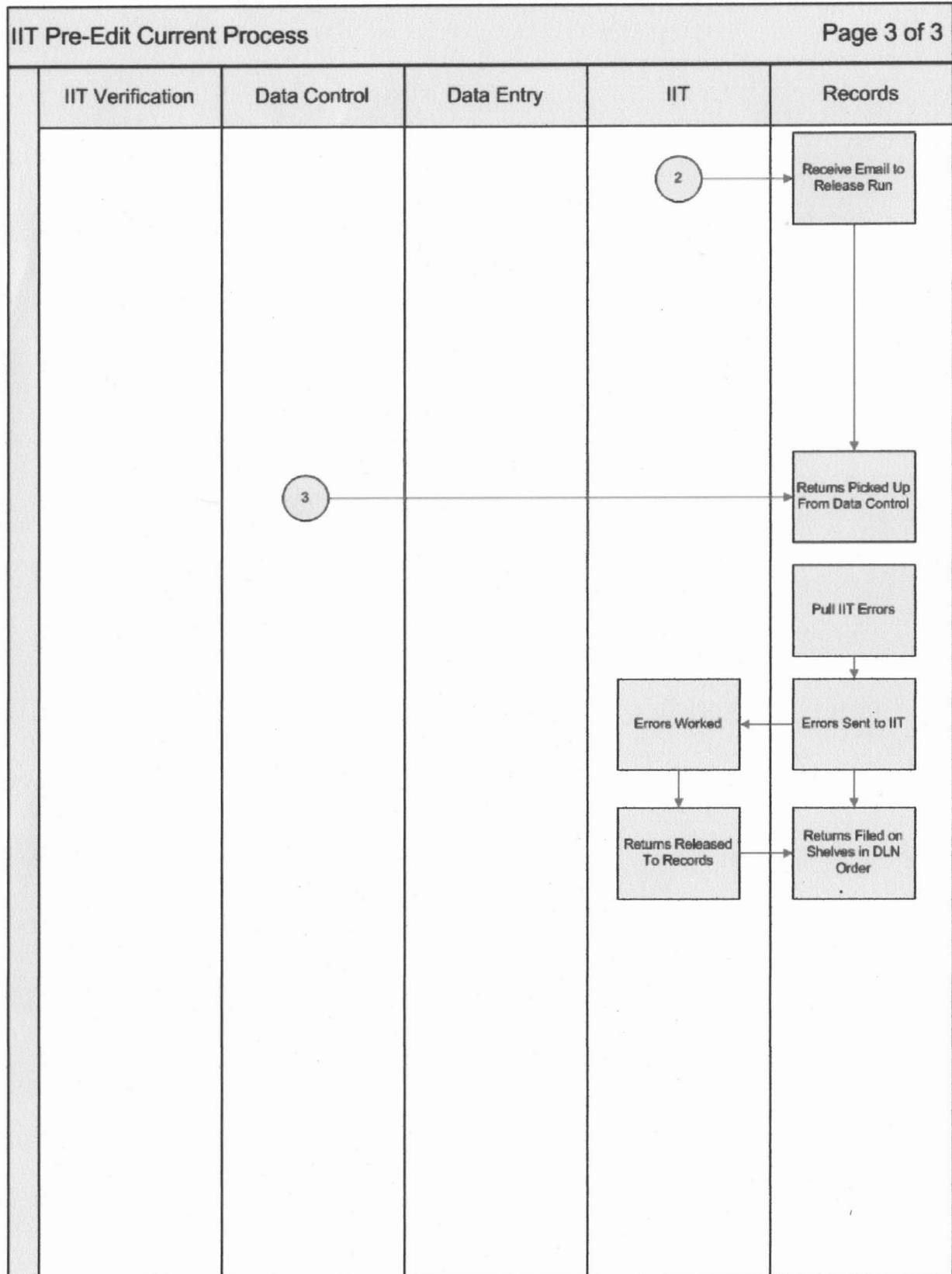
**Attachment #4**



**Attachment #4 - continued**



**Attachment #4- continued**



**Attachment #5**

**Pre-Edit Errors - Data Collected September - December 2006**

Error	# Occurrences
<b><u>IIT Verification</u></b>	
TC Not marked	77
ITIN Applied for/Missing Spouse SSN	81
TC Marked/Not TC	9
BY IN CY	10
Invalid Spouse Name	2
Missing Street Address	1
Missing SSN	6
Filing Status	28
Form in Wrong Batch	36
Composite Taxable Not Included	1
Contribution Not Marked	1
Form Year Changed	1
Total	253

**Data Entry**

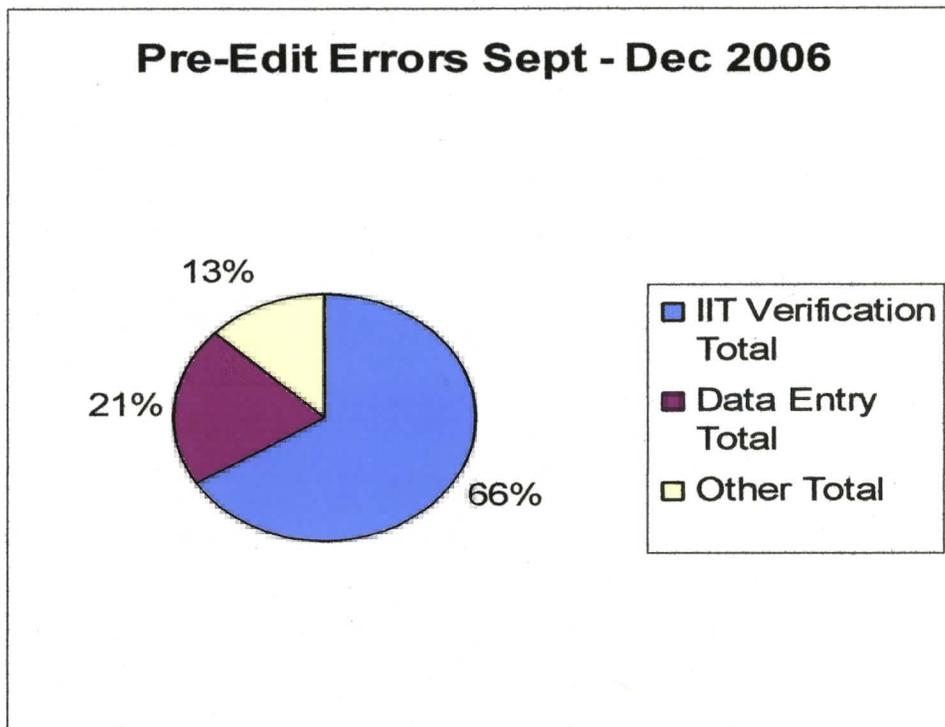
Missing Spouse SSN/name	10
Composite Name Wrong	6
Invalid Spouse Name	1
Filing Status Wrong	14
Same SSN Both TPs	1
Invalid DLN Keyed	1
Invalid Manual Codes	9
Foreign Address Wrong	7
TC Not Keyed	7
Exemption Keyed Wrong	1
County Code Keyed Wrong	1
Invalid Received Date	1
Batch header Keyed Wrong	19
Amount Keyed on TC line in Error	1
Total	79

**Other**

Contribution Returns	19
DLN Duplicated	6
Skipped DLN	3
Not Sure Why Kicked Out	22
Total	50

**Attachment #6**

**Pre-Edit Errors by Originating Section**



**Attachment #7**

**GENERAL ASSEMBLY OF NORTH CAROLINA  
SESSION 2005**

**SESSION LAW 2006-66  
SENATE BILL 1741**

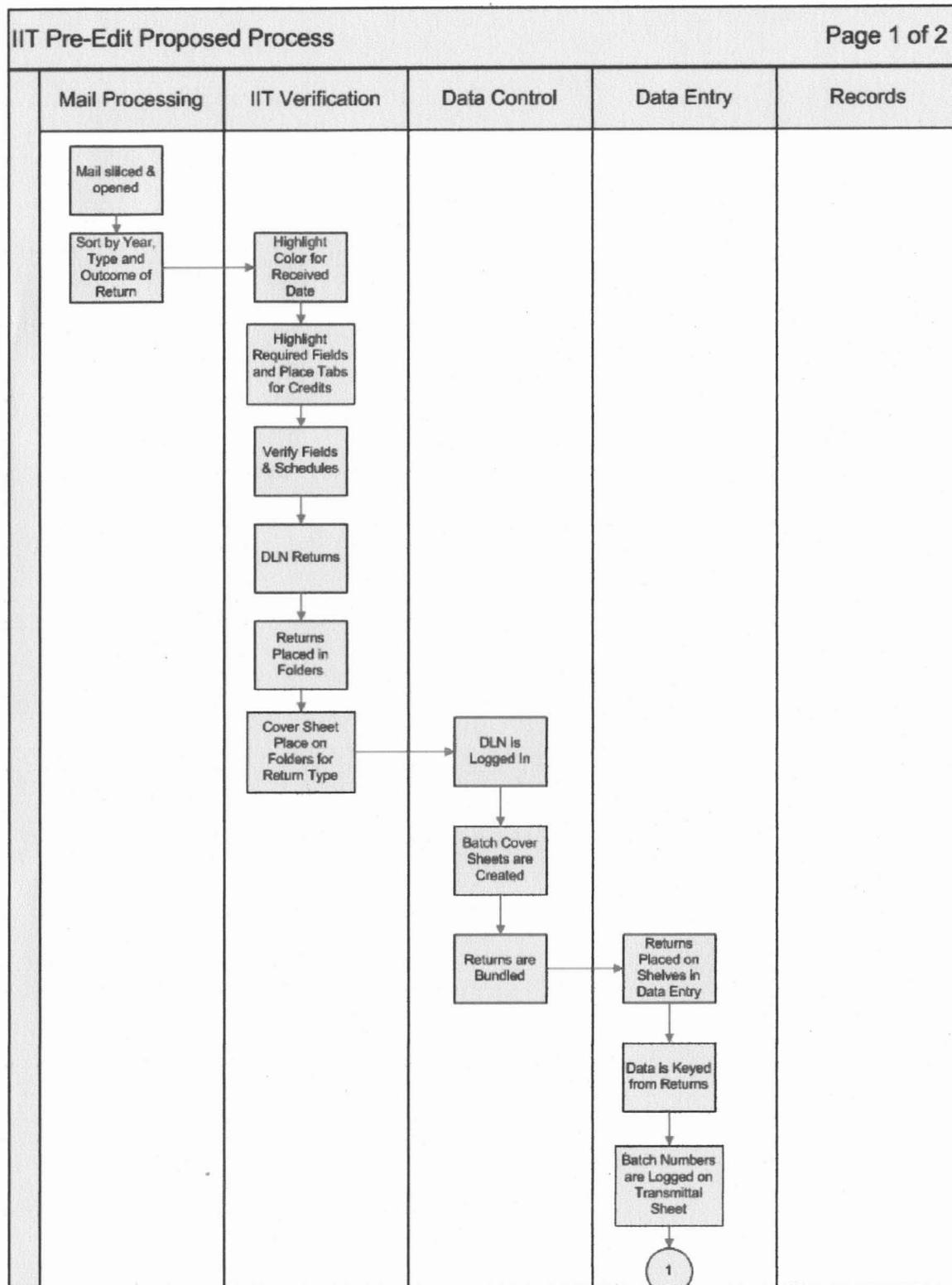
**JOINT FILING OPTIONS**

**SECTION 24.11.(a)** G.S. 105-152(e) reads as rewritten:

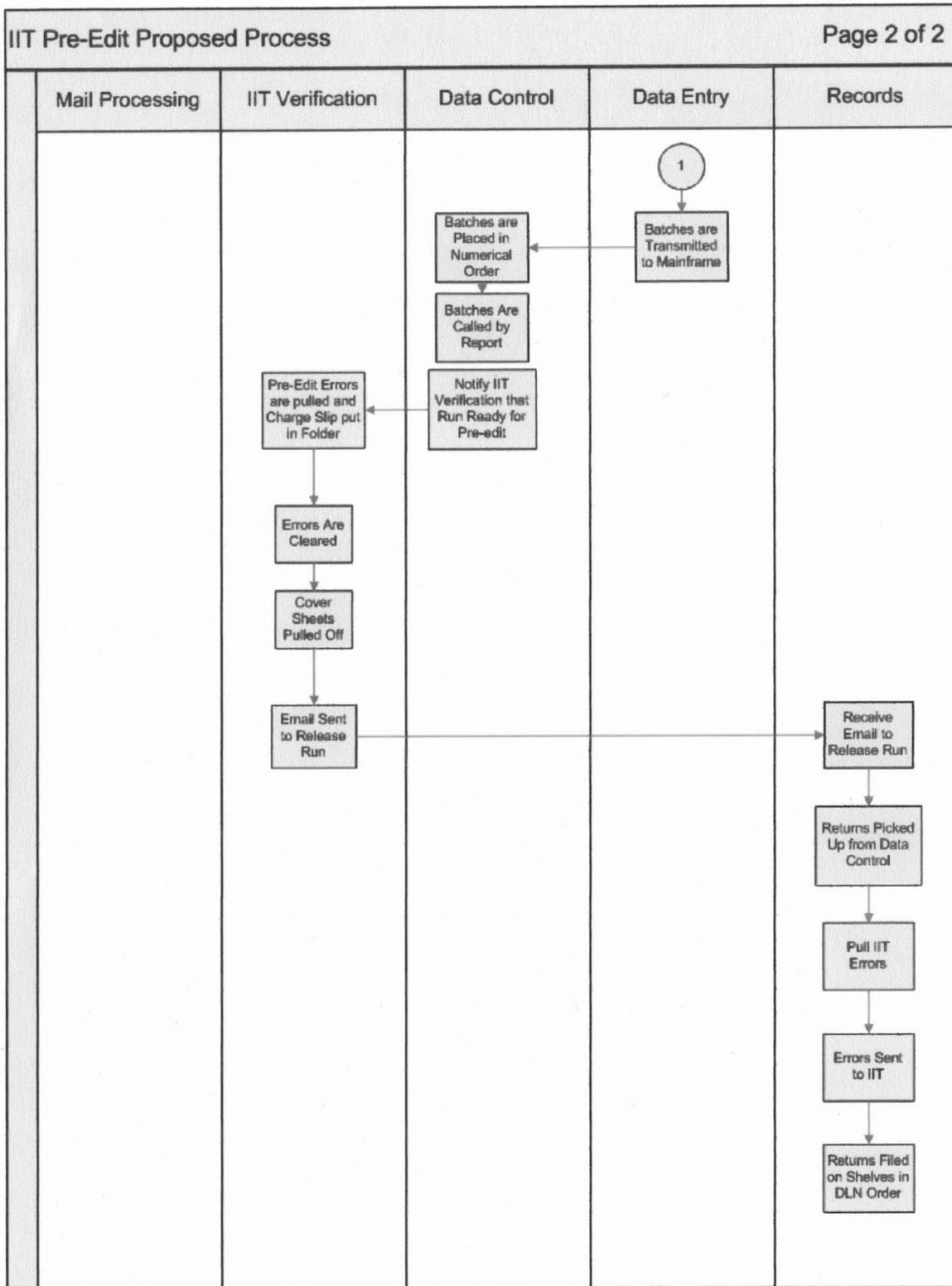
"(e) Joint Returns. – A husband and wife ~~shall file a single income tax return jointly if (i) their~~whose federal taxable income is determined on a joint federal return ~~and (ii) both spouses are residents of this State or both spouses have~~shall file a single income tax return jointly if each spouse either is a resident of this State or has North Carolina taxable ~~income and may file a single income tax return jointly if one spouse is not a resident and has no North Carolina taxable income.~~ Except as otherwise provided in this Part, a wife and husband filing jointly are treated as one taxpayer for the purpose of determining the tax imposed by this Part. A husband and wife filing jointly are jointly and severally liable for the tax imposed by this Part reduced by the sum of all credits allowable including tax payments made by or on behalf of the husband and wife. However, if a spouse has been relieved of liability for federal tax attributable to a substantial understatement by the other spouse pursuant to section 6015 of the Code, that spouse is not liable for the corresponding tax imposed by this Part attributable to the same substantial understatement by the other spouse. A wife and husband filing jointly have expressly agreed that if the amount of the payments made by them with respect to the taxes for which they are liable, including withheld and estimated taxes, exceeds the total of the taxes due, refund of the excess may be made payable to both spouses jointly or, if either is deceased, to the survivor alone."

**SECTION 24.11.(b)** This section is effective for taxable years beginning on or after January 1, 2006.

**Attachment #8**



**Attachment #8 - continued**



**Attachment #9** - Copy of Current Report TXPII110

PD TXPII110		South Carolina Department of Revenue				Page 1
PROG TXBII100						RUN
						DATE
*****ERROR LISTING FOR BATCH # 0820 *****						
<u>DLN</u>	<u>RECORD CONTENT</u>				<u>ERROR MESSAGE</u>	
75503370	05JOHN SMITH	123456789	MIRIAM	SMITH	987654321305 OAK STREET	MISSING SPOU SSN
	CAYCE	SC29033000099755033702	0200000000000{00000000{00000000{0000			
		2103D000000{0000000{0000000{0000000{000205f000000{0000000{				

**Attachment #10** - Copy of Proposed Report TXPII110

PDTXPII110		South Carolina Department of Revenue					Page 1
PROG TXBII100		Paper Pre-Edit Error List					RUN DATE
*****							
<b><u>BATCH # XXXXXX</u></b>							
<b>BATCH HEADER INFO</b>							
	<b>TAX YEAR</b>	<b>BEG DLN</b>	<b>END DLN</b>	<b>FORM TYPE</b>	<b>BATCH TYPE</b>	<b>AUDIT TYPE</b>	<b><u>OPER ID</u></b>
	####	#####	#####	##	##	##	AAA
<b><u>RECORD CONTENT</u></b>							
<b><u>DLN</u></b>					<b><u>ERROR MESSAGE</u></b>	<b><u>9990?</u></b>	
12345678	PRIMARY 1ST NAME	PRIMARY LAST NAME	PRIMARYSSN		Invalid Man Code	Y/N	
	SPOUSE 1ST NAME	SPOUSE LAST NAME	SPOUSE SSN				
	ADDRESS ON RETURN	CITY, STATE AND ZIP	COUNTYCODE				
	FILING STATUS	#EXEMPTIONS	MANUAL CODES				