From PD's Desk

In the backdrop of approval of the training calendar for the year 2009-10, I am happy to present the fifth issue of our newsletter, *The Forerunner*. The past six months have been eventful and productive in terms of quality training and new releases. The most notable amongst them were holding the first ever workshops on 'Accrual Accounting' in January 2009 and 'Digital Forensics' in March 2009, respectively. There had been an overwhelming response to these programmes. This is evident from the requests received from the user offices for repeating them in 2009-10 also.

Amongst the products developed, our fourth research paper in the series and the first ever survey on *Frauds in Government Sector* and the 'Class to Office' product- *Performance Audit Recommendations Monitoring System* have been found to be extremely useful by the field audit offices. I take this opportunity to thank all the concerned officers for their words of encouragement sent in response to these products.

I had mentioned in our previous issue that the subject of Forensic Auditing will emerge as a big challenge and adequate capacity building is required to face it. I am glad to inform that by the time you receive this copy, four of my core faculty would have completed the specially designed training programme on Forensic Auditing and Fraud Investigation Techniques conducted by the Government Examiner of Questioned Documents (GEQD), Hyderabad, Ministry of Home Affairs, Government of India. I am confident that the knowledge and practical experience gained by these trainers will go a long way in furtherance of our commitment of 'Fighting Fraud through Training'.

I am also happy to inform that we had outreach our user offices. A specially designed programme on Fraud detection using Computer Assisted Audit Techniques was conducted by the institute for 24 officers of the office of the Principal Director of Commercial Audit & Ex-officio Member, Audit Board, Hyderabad at RTC, Hyderabad recently.

But, while it may be alluring to rest on the foundation we have built, we cannot. The institute must evolve and adapt to today's dynamics or risk losing its focus. We choose the former.

Dr. Sadu Israel
Principal Director

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What is new?

**Calendar 2009-10 approved**

**First course on 'Accrual Accounting' - Jan '09**

**All India workshop on 'Railway Accounts' - Feb '09**

**First course on 'Digital Forensics' - Mar '09**

**Volley ball court**

**Reading room in the hostel**

**Computers for practice in the hostel**

RTI, Nagpur - Racing Towards Silver Jubilee - 2011
Faculty Database

In the As.G Conference held in October 2008, it was decided, among others that RTIs should develop a database of faculty for various subjects and share with other sister institutes. For this purpose, the institute has developed a Faculty Database Management System (see box). The institute has a database of over 285 faculty for various subjects. The following chart depicts the position of external faculty.

Evaluation of Faculty

The institute evaluates the faculty on 3 parameters, viz., Topic Coverage, Interaction and Presentation. Every care is taken to redraft only those faculty with proven competence and feedback. The following chart indicates the faculty rating by the participants for the courses conducted in 2008-09.

Assessment of the Faculty for the courses conducted during 2008-09

Continuing Professional Education (CPE)  
(Institute's Faculty trained between October 2008 & March 2009)

Name of the Officers | Topic/ Subject | Place of Training
--- | --- | ---
2. D. Varghese, SAO & CF | Seminar on understanding Oracle Database & Advance Excel Utilities from Auditors Perspective. | The Institute of Internal Auditors of India, Nagpur Audit Club.
1. G.K. Onee, SO & CF | | | Congratulation

Shri L.G. Bhute, AAO/CF(IS) of the institute had cleared Certified Information System Auditor (CISA) examination held in December 2008.  
Hearty Congratulations!
### OUR TOPPERS

Our institute, at the end of every training programme, conducts an evaluation test. The following table indicates the details of the participants who secured the first and the second positions in the tests. They were awarded with token mementoes and merit certificates to sustain their interest and motivational levels. Their offices were also intimated about it.

#### General

<table>
<thead>
<tr>
<th>Courses</th>
<th>Month &amp; Year</th>
<th>First Rank</th>
<th>Second Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Audit</td>
<td>Nov-2008</td>
<td>Ms. M. Uma, Sr. AO, PAG(CA), AP, Hyderabad</td>
<td>Shri Mayank Pande, SO, AG (Audit), Chhattisgarh, Raipur</td>
</tr>
<tr>
<td>Use of Statistical Sampling &amp; Risk Based Audit Approach</td>
<td>Nov-2008</td>
<td>Shri Chabiram Beig, Sr. Adr. PDA, SEC Rly, Bilaspur</td>
<td>Shri Avinash Khawase, AAO, AG (W&amp;RA), MP, Bhopal</td>
</tr>
<tr>
<td>Audit of Direct Taxes</td>
<td>Dec-2008</td>
<td>Shri R.D. Patil, AO, PDA, Central, Mumbai</td>
<td>Shri Rajiv Sharma, SO, PAG (Audit), Chandigarh</td>
</tr>
<tr>
<td>Certification of Annual Accounts of PSUs.</td>
<td>Feb-2009</td>
<td>Shri M. Charudatta, Sr. Adr. PAG (CA), AP, Hyderabad</td>
<td>Shri Shaikh Suliman, AAO PDC, MAB, AP, Hyderabad</td>
</tr>
<tr>
<td>Financial (Attest) Audit</td>
<td>March-2009</td>
<td>Shri S. Sethil Nathan, AO AG (Audit), C.G. Raipur</td>
<td>Shri C.B. Ravi, Sr. AO, AG (C&amp;RA) AP, Hyderabad</td>
</tr>
</tbody>
</table>

#### I.S. based

**(LAB-I)**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Month &amp; Year</th>
<th>First Rank</th>
<th>Second Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS-EXCEL</td>
<td>Dec-2008</td>
<td>Shri S.K. Shukla, Auditor DA, P&amp;T, Bhopal</td>
<td>Shri D.A. Bagade, Clerk, PDA, Central Railway, Mumbai</td>
</tr>
<tr>
<td>IDEA</td>
<td>Dec-2008</td>
<td>Shri Sujit Kumar Roy, SO AG (W&amp;RA), MP, Bhopal</td>
<td>Shri N.D. Taklikar, Sr. Auditor AG (Audit) - II, Mah., Nagpur</td>
</tr>
<tr>
<td>CAAIs</td>
<td>Jan-2009</td>
<td>Shri Mukesh Kumar, SO PAG(CA), AP, Hyderabad</td>
<td>Shri D.P. Palanikar, SO AG (Audit) - II, Mah., Nagpur</td>
</tr>
</tbody>
</table>

**(LAB-II)**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Month &amp; Year</th>
<th>First Rank</th>
<th>Second Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Course on PL/SQL Programming</td>
<td>Oct-2008</td>
<td>Ms. P.W. Manwatkar, SO AG (Audit) - II, Mah., Nagpur</td>
<td>Shri Atul Pande, Accountant, AG (A&amp;E) - I, MP, Bhopal</td>
</tr>
<tr>
<td>Maintenance of Hardware &amp; Software</td>
<td>Jan-2009</td>
<td>Shri R. Praveen Kumar, Auditor PDA, SC Rly, Secunderabad</td>
<td>Shri Raju Pandey, Auditor DA, (OF), Jabalpur</td>
</tr>
</tbody>
</table>

### IMPACT OF TRAINING

Entry Behaviour Tests (EBT) are conducted at the beginning of IS based courses in order to assess the knowledge and skill levels of the participants in the subjects concerned. Participants-wise results of the End Course Tests (ECT) are compared with the results of the Entry Behaviour Test (EBT) to quantify the impact of training. A chart depicting the impact of training in respect of all IS based courses conducted between October and March 2009 is given below.

### EVALUATION OF TRAINING

Based on the participants' feedback, every training programme is evaluated and grades are awarded. Details in respect of the courses conducted in 2008-09 are depicted below.

#### EDP Courses

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>86%</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>14%</td>
</tr>
</tbody>
</table>

#### General Courses

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;A&quot;</td>
<td>85%</td>
</tr>
<tr>
<td>&quot;B&quot;</td>
<td>15%</td>
</tr>
</tbody>
</table>

Note: General courses: A-75% and above; B- 60-74%
EDP courses: A - 90% and above; B - 80-89%
Model Website for RTIs.

In compliance with HQrs. instructions, the institute had prepared in-house, a model website for RTIs, which was approved by HQrs. A screen shot of the home page is given below.

Frauds in Government Sector - A Survey

This study, conducted based on the State Audit Reports of the C&AG of India, brings out methodically, among others, the control weaknesses that facilitated frauds and losses suffered.

The study involved a review of 106 audit paras of all the State and Union Territories of the country for the period 2002-03 to 2006-07.

Project 'Class to Office'

Under this project, the institute had prepared a system (IT based) for monitoring Performance Audit recommendations of the field offices. A screen shot of the system is given below.

CDs containing the software and user manuals were disseminated to all the audit offices and sister institutes.
The Mandate

Headquarters declared this institute as a Centre of Excellence in October 2003 with a mandate to act as a repository of information on the subject through developing quality reading material, case studies (national and international), research papers and database of expert faculty and media reports. Significant developments in the matter are also to be reported through a newsletter for information to the user offices and sister institutes.

Material developed & disseminated

Research Paper

- Frauds in Government Sector - A survey based on the State Audit Reports of the C & AG of India

Case Studies

1) Embezzlement of Government Money
2) Fraudulent Payment
3) Misappropriation of Government Money
4) Defalcation of Government Money
5) Fraudulent withdrawal of Government Money

Reading Material

1) Cyber Laws & Cyber Forensics
2) Anatomy of Financial Statements Fraud

Contact us for material

e-mail: rtinagpur@cag.gov.in
Ph. (0712)-2545420, 2545816, 2545829
Fax: 0712 - 2562577

Setting up a Cyber Forensic Cell

In the previous issue, a brief review of 'Digital Forensics - An emerging area' was discussed. This column will take a closer look at setting up a Cyber Forensic Cell. For successful investigation of a cyber crime, a Cyber Forensic Cell is necessary for the proper extraction and presentation of the evidence collected during the course of investigation.

1. Identification of Personnel

The identification of expert personnel to man the cyber forensics cell is essential in order to ensure the successful working of such a cell. The expert personnel would have to undergo initial training to be well equipped to tackle the evidentiary issues that arise.

However, such training programs should be conducted from time to time to ensure that the personnel are always equipped with the latest information on the tools and techniques to help them extract the best possible digital evidence.

2. Training

The next, and essentially the most crucial step in setting up a cyber forensics cell involves the identification of the type of training that is required for the personnel who would man the cyber forensics cell. Specialized training is a critical prerequisite for setting up a cell.

The cyber forensics expert needs to understand the vital issues related to cyber forensics in light of the fact that the initial investigation and the mode and manner in which digital evidence collected may not have been performed in the appropriate manner due to lack of training or expertise.

3. Constant Training & Upgrading of Systems

Continuous training ensures that personnel stay in touch with current developments of cyber forensics. Such training programs also help the participants in keeping up to date with modern tools and techniques utilized for cyber forensics.

It is essential that the Infrastructure and other systems used in the cyber forensics cell also be checked and audited constantly and upgraded as and when required.

4. Infrastructure

It is important for the cyber forensics cell to have adequate infrastructure for successful examination and analysis of digital evidence. It should be kept in mind that for a Cyber Forensics Cell, infrastructure does not only include technical infrastructure but also assets such as adequate working space, dedicated communication lines, a 24-hour
A case of misappropriation of Government money in Educational institutions

A case study prepared based on para 4.1.1 of the Audit Report (Civil) of the C&AG of India for the year ended March 2003 of the Government of Kerala as discussed below:

**CASE HISTORY ANATOMY**

**The Fraud:** The School Headmaster misappropriated money recovered on account of GPF advances from 43 school teachers over a period of three years.

**The Method:** The amount drawn in excess from treasury was shown as disbursed in the cash book, but was not actually disbursed to concerned teachers as per acquaintance rolls. The DDO never checked the totals of inner recovery columns of pay bills for correctness. Further he never crossed checked the vertical and horizontal totals of pay bills and its reconciliation with recovery schedules. The modus operandi of fraud is shown in the adjacent flow chart.

**How Detected:** Audit party of Office of the Accountant General (Audit) Kerala Branch Trichur, during their audit of accounts and registers such as office copies of pay bills, original pay bills, register of recoveries of GPF advance, acquaintance rolls and cash book noticed discrepancy in totals of office copies of pay bills and original pay bills in respect of recovery of GPF advances. Based on this Red Flag, Audit found excess drawal of pay and allowances to the tune of Rs. 2.98 lakh.

**KEY PROCESSES AND CONTROLS LOST SIGHT OF**

**KEY CONTROLS TO BE IN PLACE**

- Horizontal & Vertical Total of Each column of pay bill to be checked for ensuring arithmetical accuracy
- Agreement between amounts of recoveries shown in schedules agreed with totals shown in pay bill item wise
- Agreement between amounts disbursed shown in acquaintance roll with cash book
- Register of recovery should be posted from schedules of recovery
- Treasury officer should check the arithmetical accuracy of pay bills
- Alert for change in rate of recovery in AG office

**Recovery from pay bill**

- Schedule of recoveries
- Disbursement of correct amount to legally entitled person
- Posting of Register of recovery
- Submission of pay bills to treasury office for passing the bill accounting
- In AG office for Posting of GPF accounts from schedules

**KEY CONTROLS BYPASSED**

- These totals were never checked
- Not done by DDO
- Not carried out
- Not done
- This was not done in treasury
- None, as the misappropriation took place at a time when the computerization was not stabilized and the posting not streamlined

**GPF Annual statement**

**Setting up a Cyber Forensic Cell**

internet connection among others which should be made available to the cyber forensic expert(s) working on cyber crime cases.

**The software requirements** for the cell should include

- Robust operating system software
- Other application software facilitating word processing, spreadsheet, electronic mails, multimedia, imaging and for identifying various other kinds of file formats during the course of examination
- Case management software for keeping records of the cases being examined and for tracking case details at short notice

- Bootable disks to let the forensic specialist boot from such disks instead of the suspect's bootable disk.
- Advanced cyber forensic software having the following functionalities
- Bit-stream back up of data is contained in any storage media. Such back up is necessary for examining the information contained in the suspect storage media. The forensic procedure prohibits examination of the original media to prevent any accidental erasure or interference during examination of such media.

*To be contd.*

*Courtesy: Asian School of Cyber Law, Pune*
Ratios Analysis in Fraud Detection

Ratio analysis is a means of measuring the relationship between two different financial statement amounts. As the financial ratios present a significant change from one year to the next, or over a period of years, it becomes obvious that there may be a problem. As in all other analysis, specific changes are often explained by changes in the business operations. As a change in specific ratios is detected, the appropriate source accounts should be researched and examined in detail to determine if fraud has occurred. For instance, a significant decrease in a company's current ratio may point to an increase in current liabilities or a reduction in assets, both of which could be used to cover fraud.

Common Financial Ratios

CURRENT RATIO
The current ratio, current assets to current liabilities, is
\[
\frac{\text{Current Assets}}{\text{Current Liabilities}}
\]
probably the most-used ratio in financial statement analysis. In detecting fraud, this ratio can be a prime indicator of manipulation of accounts involved. Embezzlement will cause the ratio to decrease. Liability concealment will cause a more favorable ratio.

QUICK RATIO
The quick ratio, often referred to as the acid test ratio,
\[
\frac{\text{Cash} + \text{Securities} + \text{Receivables}}{\text{Current Liabilities}}
\]
compares assets that can be immediately liquidated. An examiner will analyze this ratio for fraud indicators. In year one, the company balance sheet reflects a quick ratio of 2.05, this ratio drops in year two to 1.00. In this situation, a closer review of accounts receivable shows they are increasing at an unusual rate which could indicate fictitious accounts receivable have been added to inflate sales. Of more concern perhaps is the increase in accounts payable which might require, at a minimum, a closer review to determine why.

RECEIVABLE TURNOVER
Receivable turnover is defined as net sales on account divided by average net receivables. It measures the number of times accounts receivable is turned over during the accounting period. If the fraud is caused from fictitious sales, this bogus income will never be collected. As a result, the turnover of receivables will decrease.

COLLECTION RATIO
Accounts receivable aging is measured by the collection ratio. A fraud examiner may use this ratio as a first step in detecting fictitious receivables or larceny and skimming schemes. Normally, this ratio will stay fairly consistent from year to year, but changes in billing policies or collection efforts may cause fluctuation.

INVENTORY TURNOVER
The relationship between a company's cost of goods sold and average inventory is shown through the inventory turnover ratio. This ratio measures the number of times inventory is sold during the period. This ratio is a good determinant of purchasing, production, and sales efficiency.

AVERAGE NUMBER OF DAYS INVENTORY IS IN STOCK
The average number of days inventory is in stock ratio is a 365/Inventory Turnover restatement of the inventory turnover ratio expressed in days. This rate is important for several reasons. An increase in the number of days inventory stays in stock causes additional expenses, including storage costs, risk of inventory obsolescence, and market price reductions, as well as interest and other expenses incurred due to tying up funds in inventory stock.

DEBT TO EQUITY RATIO
The debt to equity ratio is computed by dividing total liabilities by total equity. This ratio is one that is heavily considered by lending institutions. It provides a clear picture of the relative risk assumed by the creditors and owners.

PROFIT MARGIN
Profit margin ratio is defined as net income divided by net sales. This ratio is often referred to as the efficiency ratio, in that it reveals profits earned per dollar of sales. This percentage of net income to sales relates not only the effects of gross margin changes, but also charges to sales and administrative expenses. As fraud is committed, net income will be artificially overstated, and the profit margin ratio will be abnormally high. False expenses and fraudulent disbursements will cause an increase in expenses and a decrease in the profit margin ratio. Overtime, this ratio should be fairly consistent.

ASSET TURNOVER
Net sales divided by average operating assets is the calculation used to determine the asset turnover ratio. This ratio is used to determine the efficiency with asset resources are utilized. The case example displays a greater use of assets in year two than in year one. By performing an analysis of the financial statements, the examiner may be directed toward the direct evidence to resolve an allegation of fraud. After performing a financial statement analysis, the examiner can select statistical samples in the target account and eventually examine the source documents. If an irregularity of overstatements is suspected, begin the examination with the financial statement. If, however, an irregularity of understatement is suspected, begin the examination with a review of the source documents. This rule of thumb is of particular effectiveness in the area of omission of liabilities, such as litigation, contingent liabilities, leases, and some product warranties.

(Courtesy: ACFE)

If auditors were responsible for the discovery of all employee fraud, auditing tests would have to be greatly expended.

-Alvin A. Arens & James Loebbecke
Red Flags & Anti-Fraud Measures in Accounts Payable Process (contd.....)

In our last issue, we had presented a few red-flags and anti-fraud measures for various activities involved in the Accounts Payable process. In this issue some more tools on the subject are presented.

<table>
<thead>
<tr>
<th>Red Flags (Fraud indicators)</th>
<th>Preventive</th>
<th>Anti-fraud measures</th>
<th>Detective</th>
</tr>
</thead>
<tbody>
<tr>
<td>No documentation of additions, changes or deletions to vendor master file.</td>
<td>As far as possible, the functions of creation of vendor master database and changes thereof is done centrally or restricted to a chosen few. An appropriate documentation is maintained. Whenever vendor master list is edited, it has to have explicit approval of the competent authority.</td>
<td>In computerized systems, generate a list of the most recent additions or deletions to the vendor master database and look for relevant authorizations.</td>
<td>Trace back to relevant authorizations and authenticity of the vendors and the departments that carried out the adjustments.</td>
</tr>
<tr>
<td>Excessive credit adjustments to a particular vendor and/or credit issued by unauthorized department (credits involving quantities and price).</td>
<td>Credit adjustments are allowed to be carried out by authorized departments only and wherever they are carried out appropriate documentation is maintained.</td>
<td>Verify whether payments made were genuine and goods were actually received.</td>
<td></td>
</tr>
<tr>
<td>Systematic pattern of adjustments to accounts payable for goods returned.</td>
<td>Document reasons for return. If the goods were below the set standard, mention should be made in the Sales Return Book, Stock Register and Bin Card.</td>
<td>Trace the items to general ledger control account to identify discrepancies, if any.</td>
<td></td>
</tr>
<tr>
<td>No reconciliation performed of accounts payable sub ledger to general ledger control accounts. Lack of documentation for payment of invoices.</td>
<td>Periodical reconciliation by authorized individuals and verification of discrepancies.</td>
<td>Select payment advices to trace them to the concerned invoices, goods receipts and purchase orders.</td>
<td></td>
</tr>
<tr>
<td>Lack of documentation for payment of invoices.</td>
<td>Keep Payment Advice as a separate document from the invoices, which gives all the payment validation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

World Bank Loan Programme Infested with fraud

The World Bank's independent evaluation group has warned of significant risks of fraud and corruption in the bank's lending programme, which provides loans and grants to 78 countries, including India.

The report relates to the review of the World Bank's International Development Association (IDA) programme carried out by the bank's Independent Evaluation Group (IEG). IDA is part of the World Bank Group that provides interest-free loans and grants to 78 poorest countries including India, which is one of the biggest borrowers from the programme.

"Evidence emerged during the review that suggested that there are significant risks of fraud and corruption (F&C) impinging on IDA's lending operations, not fully matched by appropriate controls," the report said.

"Since the risk of fraud and corruption by local beneficiaries, contractors, and other stakeholders can result in diversion of funds that, in the worst case, can impair IDA's mission, IEG considers this weakness to be a material weakness," IEG asserted.

The report titled 'Review of IDA Internal Controls An Evaluation of Management's Assessment and the IDA review' pointed out there has been progress in building the bank's global anti-F&C agenda.

India was among the biggest borrowers from the IDA in financial year 2008, borrowing $837 million and was only next to Vietnam ($1,193 million), official data shows.

(Source: Financial Express 20-4-2009)

A to Z of Frauds

A-Asset Conversion Fraud
A conversion (disposal or sale) of goods (to which the hirer/buyer does not have title) under a hire purchase, conditional sale, contract hire, leasing or rental agreement.

B-Bait and Switch
A form of fraud in which the party putting forth the fraud lures in customers by advertising a product or service at an unfairly low price, then reveals to potential customers that the advertised good is not available but that a substitute is.

C-Cash Larceny
Cash receipts are stolen after they are recorded in the organisation's books and records.

D-Data Stream Attack
Capture of card data not from the card itself but from the transaction and verification process. The 'attack' can come remotely via the Internet, but usually involves inside access to a relevant company IT department.

E-Encryption
Method of making information secret by transforming plain text into ciphered text.

F-False Accounting
False accounting occurs when a person dishonestly, with a view to gain for themselves or another or with the intent to cause loss to another destroys, defaces, conceals or falsifies any document made for accounting purposes or makes use of any accounts which to his knowledge is or may be misleading, false or deceptive in a material manner.

(to be contd.)