NSF OIG Audit Update

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NORTHEAST CONFERENCE ON COLLEGE COST ACCOUNTING

September 23, 2014

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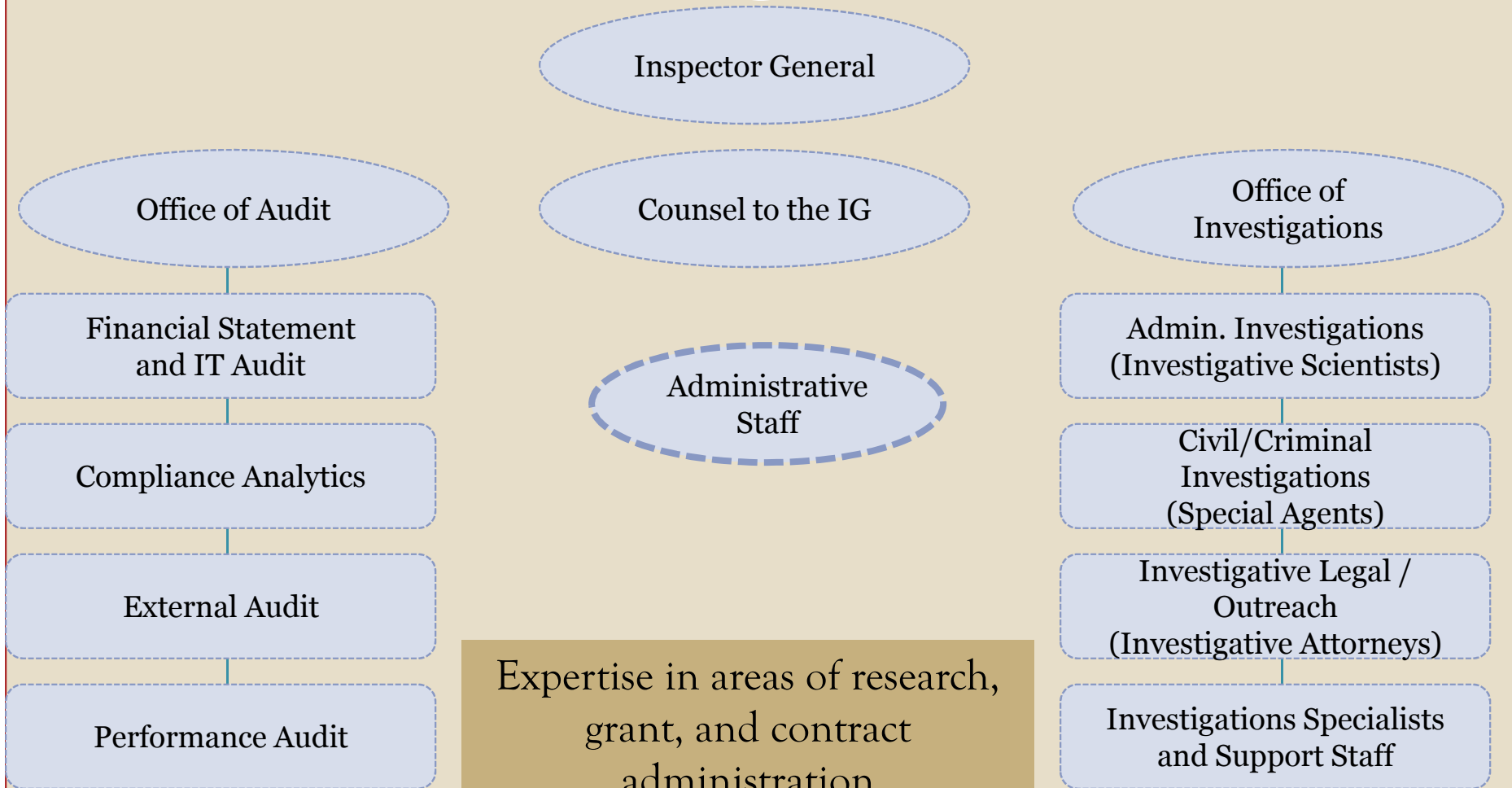National Science Foundation

Overview

- Overview of NSF OIG Office of Audit

- Overview of Federal financial assistance in the U.S.

- Framework for Grant Oversight

- Grant Reform

- Purchase Card Oversight

Inspector General

Office of Audit

Counsel to the IG

Office of Investigations

Financial Statement and IT Audit

Administrative Staff

Admin. Investigations (Investigative Scientists)

Compliance Analytics

Civil/Criminal Investigations (Special Agents)

External Audit

Investigative Legal / Outreach (Investigative Attorneys)

Performance Audit

Expertise in areas of research, grant, and contract administration

Investigations Specialists and Support Staff

- Promote economy and efficiency in NSF's financial, administrative, and program operations
- Internal Audits
  - Performance audits of NSF program management
  - Oversee annual audit of NSF's financial statement
  - Information technology and security
- External Audits
  - Audit NSF-funded grants, contracts, and cooperative agreements
  - Determine whether claimed costs are allowable, reasonable, and allocated properly
- Outreach

OIG Semiannual Report: http://www.nsf.gov/oig/pubs.jsp

Audit Planning

- Work Required by Law:
  - Agency Financial Statement Audit (CFO Act)
  - Federal Information Security Management Act (FISMA)
  - Improper Payment Elimination and Recovery Act (IPERA)

- Other:
  - OIG Risk-based Assessments
  - Referrals from Investigations
  - NSF Management Challenges
  - National Science Board and NSF Suggestions
  - Congressional Requests

- $600 billion in awards
  - 88,000 awardees and 26 Federal grant making agencies
  - Project and research, block, and formula
- Outcomes are designed to promote public good
- Challenges
  - Limited visibility of how Federal funds are spent by awardees
  - Support for funding requests much less than for contracts
- American Recovery and Reinvestment Act (2009)
  - $840 billion of assistance to stimulate the economy
  - ARRA spending still being tested in audit work
  - Greater accountability and transparency over spending than ever

Grants Differ From Contracts

GRANTS	CONTRACTS

GRANTS

Promote services for the Public Good

- Merit review (competitive)
- Multiple awardees
- Award budget
- No government ownership
- Grant payments
  - Summary drawdowns
  - No invoices for claims
  - Expenditures not easily visible
- Salary percentages

CONTRACTS

Specified deliverables (Goods and Services)

- Competitive process
- One awardee
- Contract Price
- Government ownership
- Contract payments
  - Itemized payment requests
  - Invoices to support claims
  - Detailed costs
- Salary hourly rates

Grant Audit Focus Areas

- Award Administration
  - NSF administration (controls)
  - Awardee administration (controls)

- Cost Compliance
  - Allowable
  - Within award scope
  - Documented

Award Administration

Grant Recipient Responsibilities

We Look At
- Financial management system and expenditures
- Accuracy and timelines of reporting, notifications
- Participant support, sub-award monitoring
- Effort reporting

Common Findings
- No approvals, no procedures for determining allowable costs
- Effort reporting not timely, not approved by correct official
- Budget not compared to actual expenditures
- Participant support reallocated without prior NSF approval
- Inadequate sub-award monitoring

Cost Compliance

Costs must be allowable, reasonable, allocable, documented, and consistent in treatment

We Look At
All costs, including cost share expenditures, claimed on NSF awards. We use data analytics tools to identify risk areas.

Common Findings
- Unsupported expenditures
  - Reimbursements not documented (invoices, etc.)
  - Time and effort not timely, not signed/certified
- Unallowable expenditures
  - Direct charges for costs in the indirect pool
  - Excess faculty/senior personnel salaries (unless NSF-approved)
  - Meals, non-related travel, alcohol
  - Unapproved changes in participant support

- Data analytics-driven, risk-based methodology to improve oversight
  - Identify institutions that may not use Federal funds properly
  - Techniques to surface questionable expenditures
- Life cycle approach to oversight
  - Mapping of end-to-end process to identify controls
  - 100% review of key financial and program information
  - Focus attention to award and expenditure anomalies
- Complements traditional oversight approaches
  - Techniques to review process and transactions are similar
  - Transactions of questionable activities are targeted

Automated Oversight

- More efficient use of resources
  - 100% transaction review
  - Still use traditional audit techniques to test transactions
  - Opportunities to enhance oversight with less resources

- Improved risk identification
  - Business rules based on risks
  - Focus review on higher risks

- Recipients and Agency Officials can use data analytics
  - Monitor grant spending
  - Identify anomalies early

Data Analytics Help….

- Determine reliability data fields
  - Shape of the data (statistics)
  - Completeness of transactions and fields

- Show anomalies
  - Within a database
  - Between databases
  - Changes in behavior over time

- Develop risk profiles and scores for comparisons
  - Awardee profiles
  - Award-type profiles
  - Program profiles

- Transaction level data is key…

Data Analytics: Myths and Realities

| MYTHS	REALITIES
- Data only, no fieldwork - Numbers exercise - Process changes data - Findings unsupported - Not auditing	- Focuses fieldwork - Still test support with traditional techniques - Source data not changed - Findings have stronger support - Yellow Book Compliant

End to End Process for Grant Oversight

SOLICITATIONS · PROPOSALS · PRE-AWARD REVIEW · AWARD · CASH REQUEST · PAY/ ENTITLEMENT · CASH DISBURSEMENTS · POST AWARD · AWARD CLOSE-OUT

PRE-AWARD RISKS

- Funding Over Time
- Conflict of Interest
- False Statements
- False Certifications
- Duplicate Funding
- Inflated Budgets
- Candidate Suspended/Debarred

ACTIVE AWARD RISKS

- Unallowable, Unallocable, Unreasonable Costs
- Inadequate Documentation
- General Ledger Differs from Draw Amount
- Burn Rate
- No /Late/Inadequate Reports
- Sub-awards, Consultants, Contracts
- Duplicate Payments
- Excess Cash on Hand/Cost transfers
- Unreported Program Income

AWARD END RISKS

- No /Late Final Reports
- Cost Transfers
- Spend-out
- Financial Adjustments
- Unmet Cost Share

DATA ANALYSIS

Dr. Brett M. Baker, 2010
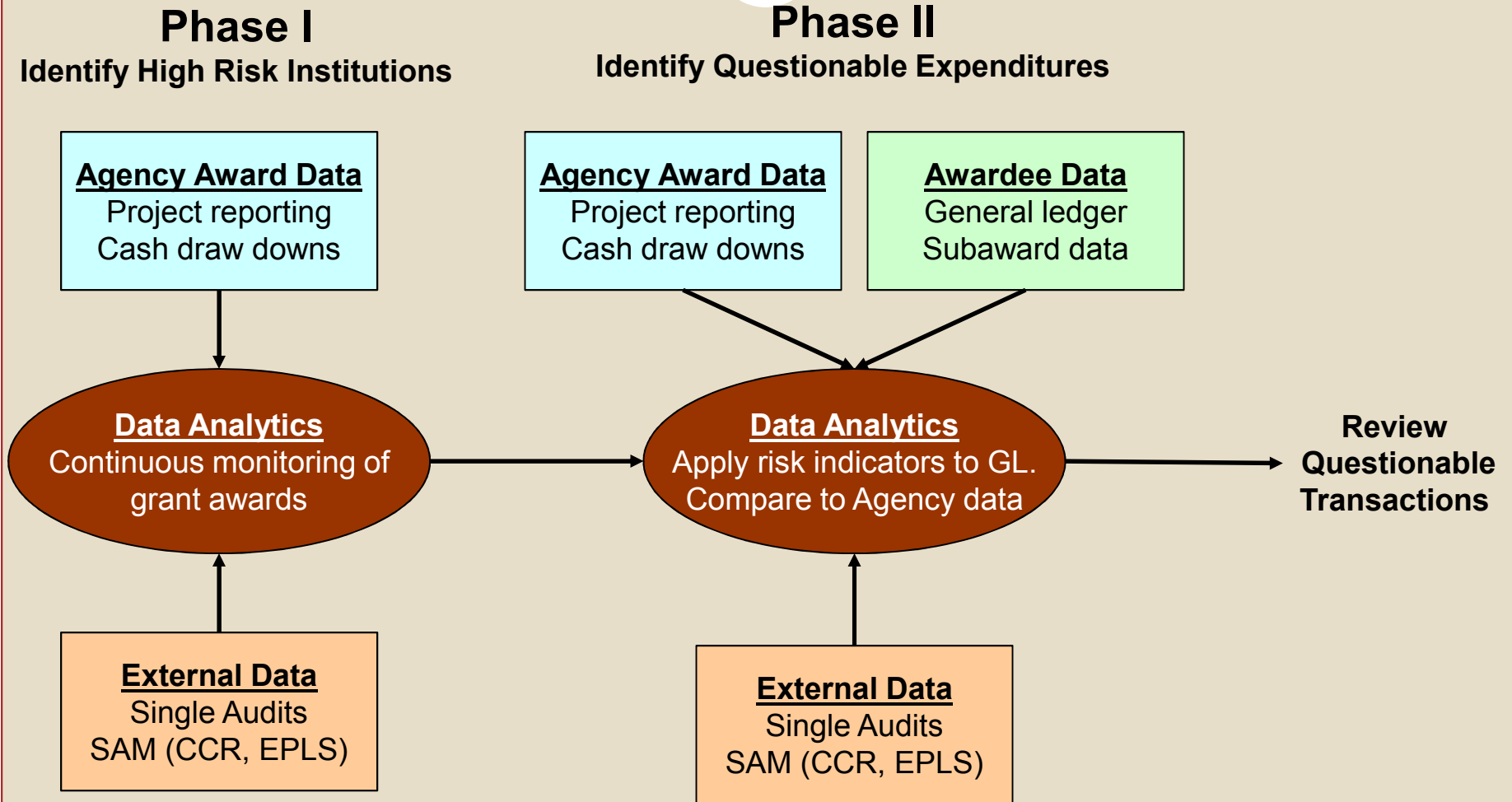
Identification of Higher Risk Institutions and Transactions

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AIGA. NSF-OIG

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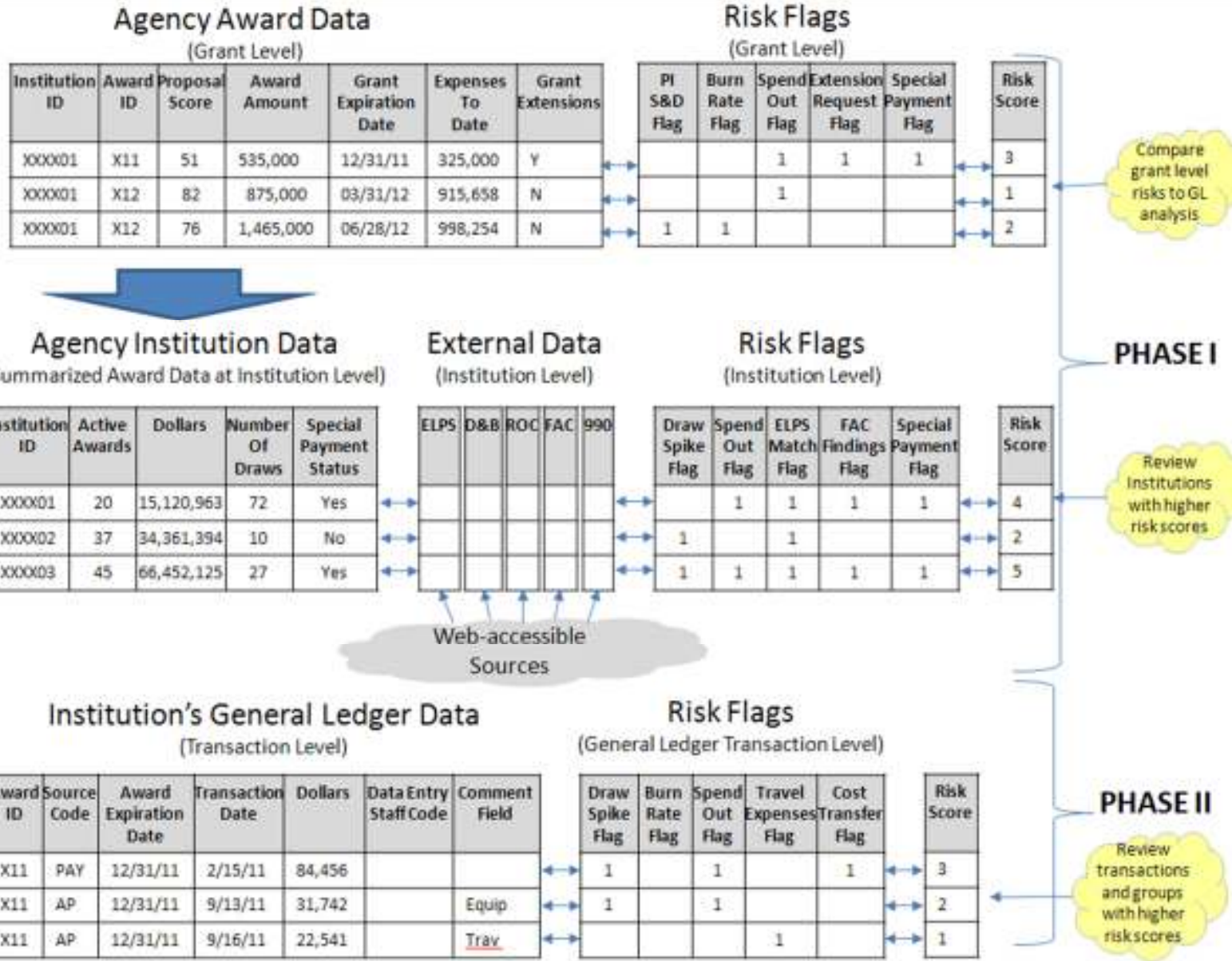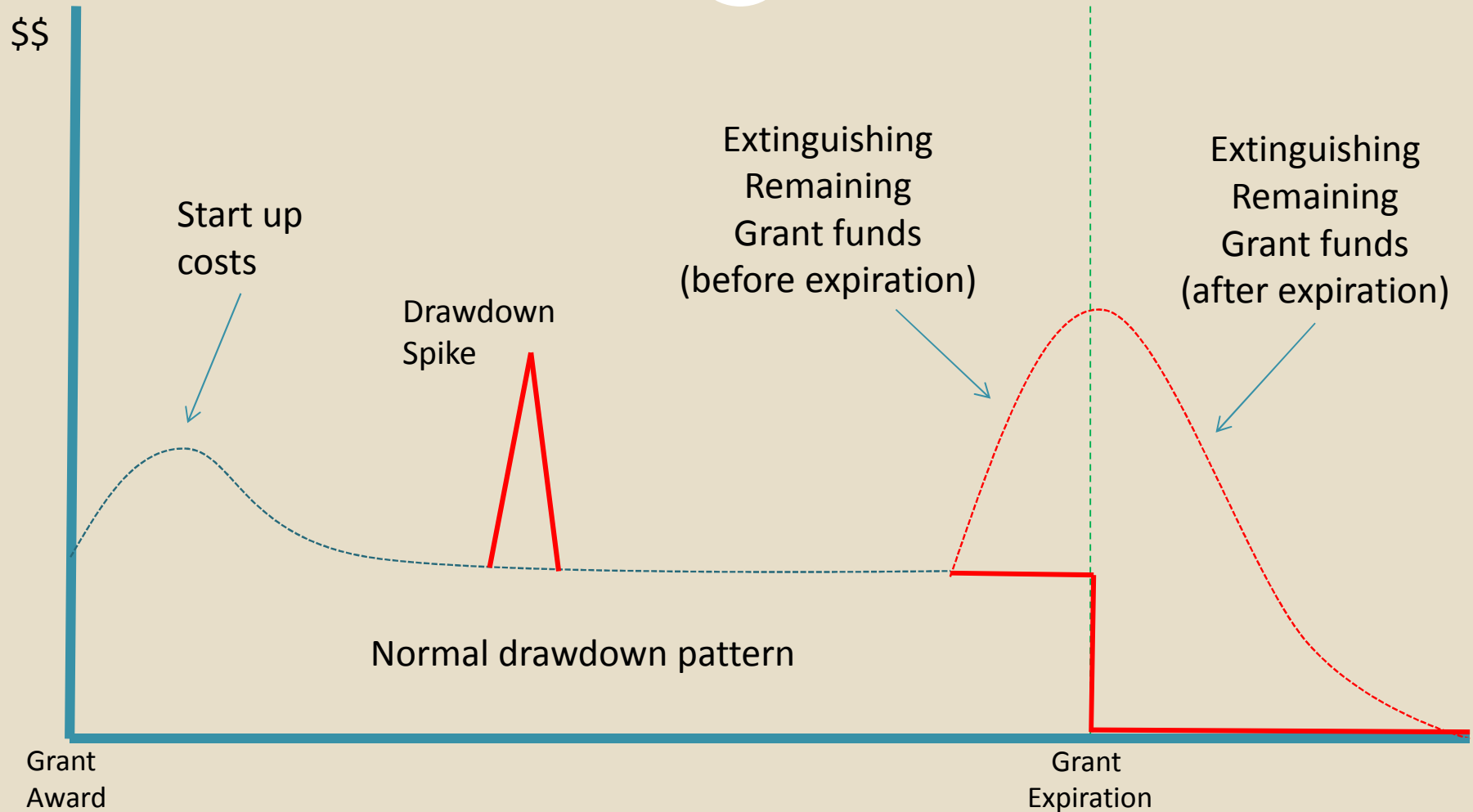
Burn Rate – Actual vs Expected

	Actual				Expected		
Award	**Amount ($K)**	**Expended ($K)**	**% Expend**	**Award Days**	**Days Active**	**% Total Days**	**Delta**
1	10,000	9,000	90%	1095	769	70%	1.29
2	5,000	4,000	80%	1095	524	48%	1.67
3	2,000	1,500	75%	1095	404	37%	2.03
4	1,000	995	99%	365	200	55%	1.81
5	20,000	12,000	60%	1826	500	27%	2.22
6	10,000	5,000	50%	1826	1600	88%	0.57
Awardee Totals	48,000	32,495	68%	7,302	3,997	55%	1.24

1.00 would be normal
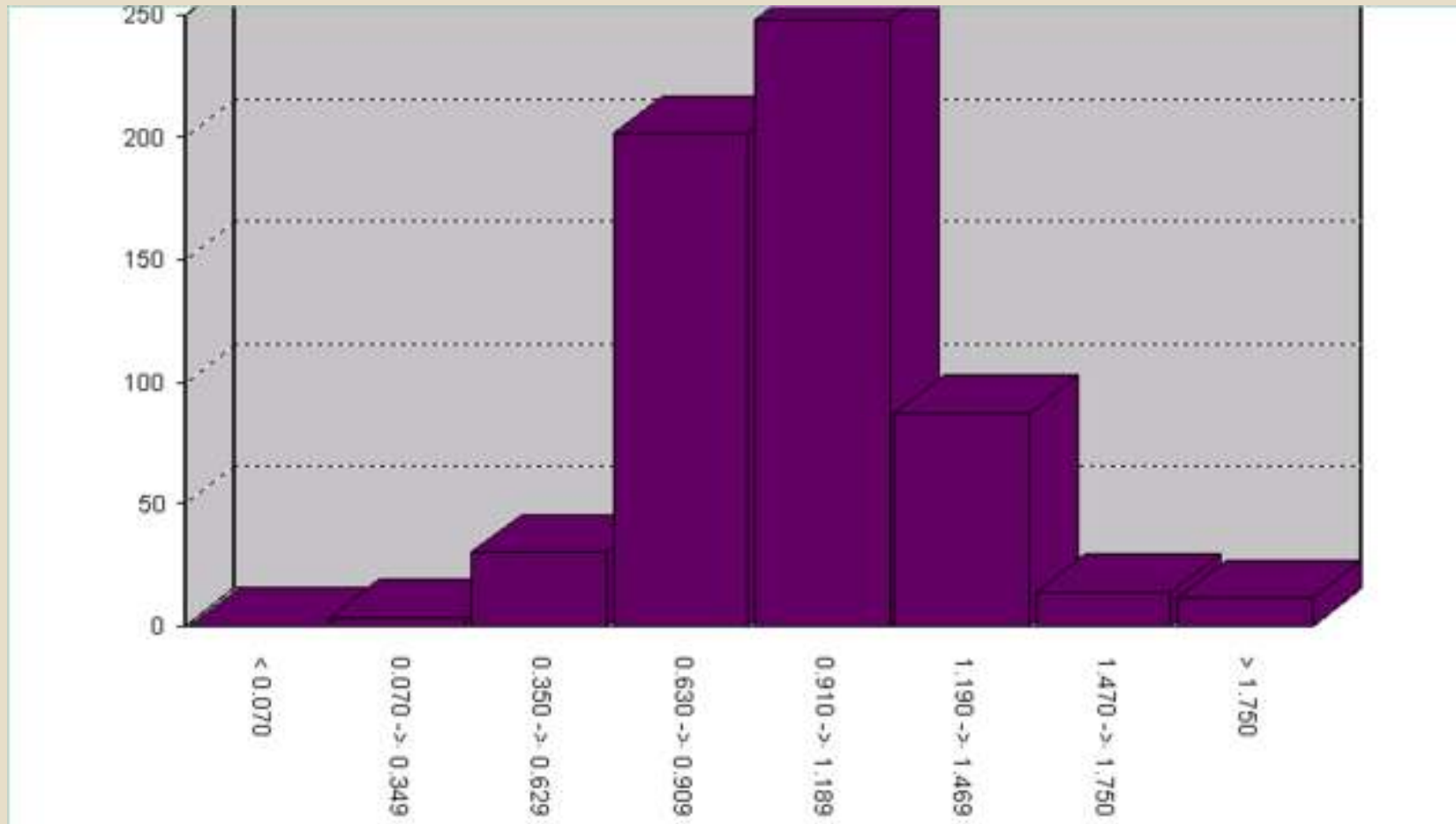
Example: Equipment Charges Incurred Immediately Before Grant Expiration Date

GRANT ID	OBJECT DESCRIPTION	GRANT EXPIRATION DATE	TRANSACTION DATE	LEDGER POST DATE	FINANCIAL AMOUNT
XXXXX42	CONSTRUCTION AND ACQUISITION	09/30/2009	09/30/2009	10/06/2009	51,851.22

Same day as expiration

GRANT ID	OBJECT DESCRIPTION	GRANT EXPIRATION DATE	TRANSACTION DATE	LEDGER POST DATE	FINANCIAL AMOUNT
XXXXX27	INVENTORIAL EQUIPMENT	07/31/2010	06/04/2010	08/11/2010	31,621.56

57 days before expiration

GRANT ID	OBJECT DESCRIPTION	GRANT EXPIRATION DATE	TRANSACTION DATE	LEDGER POST DATE	FINANCIAL AMOUNT
XXXXX77	INVENTORIAL EQUIPMENT	08/31/2009	07/16/2009	09/10/2009	23,163.75

46 days before expiration

				TOTAL	106,636.53

Travel Related to Award?

Just before award expiration

NSF_OIG_Transaction	Expiration Date	Transaction Date	Expense Type	Amount
GL Trans-030745	09/25/2007	08/31/2007	TRAVEL-IN-STATE	73,519
GL Trans-099671	06/11/2010	06/01/2010	TRAVEL - FOREIGN	41,474
GL Trans-084844	11/02/2010	10/31/2010	TRAVEL - OUT-OF-STATE	37,516
GL Trans-045792	02/09/2010	02/01/2010	TRAVEL-IN-STATE	28,905
GL Trans-117607	06/11/2010	07/15/2010	TRAVEL - FOREIGN	27,262
GL Trans-126299	08/19/2010	09/30/2010	TRAVEL-IN-STATE	20,975

Just after award expiration

OMB Grant Reform

- OMB effort to streamline financial assistance circulars
  - Cost compliance and administrative principles
  - Audit monitoring and follow-up

- Presidential Memorandum (February 2011)
  - Administrative Flexibility, Lower Costs, and Better Results for State, Local, and Tribal Governments.

- Federal Register Notices and Final Rules
  - Two postings: April 2012 and June 2013
  - Uniform Guidance finalized December 2013

- Focus areas by OIG community
  - Single Audit threshold and testing
  - Effort reporting
  - Cost Accounting Standards and Disclosure Statements
  - Must vs Should language in final rules

Grant Reform Working Group

- OIG community Grant Reform Working Group
  - 20 OIGs from 26 grant agencies – Allison Lerner, NSF IG, is Chair
  - Established in January 2012 to address proposed rule changes
  - Opportunity to streamline makes sense, but need to maintain accountability
- Collaboration and Communication Process
  - Regular meetings with stakeholders to share insight on concerns
  - OMB (Danny Werfel, Norm Dong, Mark Reger, Victoria Collin, Gil Tran)
- Coordination with stakeholders:
  - Council on Financial Assistance Reform (COFAR) – 12 grant-making CFOs
  - Council on Governmental Relations (COGR) – over 180 research schools
  - Federal Demonstration Partnership (FDP) – Fed Govt/Schools streamline
  - Financial Fraud Enforcement Task Force (DoJ)
  - Not-for-profit community -AICPA, States, Schools, Tribal government
- 2013 OMB Webinar

OIG Community Focus Areas

- Single Audit threshold and testing
  - Increasing threshold to $750,000, lose coverage of 5000+ awardees
  - Reduce compliance testing from 14 areas to 7 (cost testing still required)
  - Responsibilities for OIGs (audit quality) and Agencies (program management)
- Annual time and effort reporting
  - Streamline effort reporting and keep accountability
  - Dropping semi-annual certification by a knowledgeable person
  - "Suitable means of verification" need to show work performed
  - NSF and HHS OIGs performing audits of 4 effort reporting pilots
- Cost accounting standards and Disclosure Statement (DS-2)
  - DS-2 shows awardee can manage federal funds (systems, accounting)
  - DS-2 filings required only for changes and new entities (1-2 a year)
  - Helps differentiate between direct and indirect costs
- Must versus Should language in Uniform Guidance

Purchase Card Oversight Using Data Analytics

- Government Purchase Card Overview
  - Simplified acquisition
  - High risk for abuse without strong oversight

- DoD Joint Purchase Card Review

- Current work at NSF

DoD Joint Purchase Card Review

- Review objective
  - Develop automated oversight capability to identify anomalies in purchase card data that may indicate fraud or abuse
  - Improve field research, reporting, process for audit and investigation

- Universe reviewed
  - 15 million purchase card transactions ($9 billion)
  - 200,000 cardholders (CH) and 40,000 authorizing officials (AO)

- Subject Matter Expert Conferences
  - Structured brainstorming : 35 auditors, investigators, GSA officials
  - Developed 115 indicators of potential fraud → 46 codable
  - Build targeted business rules to run against data

Top Performing Indicator Combinations

- 97% Entertainment Internet sites, Weekend/Holidays

- 67% Purchases from 1 vendor, Card Holder=AO

- 57% Internet transactions, 3rd party billing

- 53% Interesting vendors, many transactions

- 43% Even dollars, near limit, same vendor, vendor business w/few CHs

Joint Purchase Card Review Results

- Review Results
  - 6.5 million transactions had at least 1 indicator
  - 13,000 transactions (with combinations of indicators)
    - 2000 cardholders and 1600 approving officials in 750 locations
  - 8000 transactions (researched by base-level auditors)
  - 1300 questioned/investigated transactions (some level of misuse)
- Outcomes
  - 275 cases with adverse action or prosecution
  - $100 million in improper and fraudulent purchases
  - Improved Defense agency oversight, policies and procedures
    - Example: AO span of control < 7 CHs, closer oversight by APC
  - Capability to embed risk indicators in credit card company systems
    - Government purchase card abuse ≠ personal credit card abuse

Current NSF Purchase Card Work

- Approach similar to DoD joint purchase card review

- Transaction universe
  - 3 years of purchase card activity
  - 230 card holders
  - 34,000 transactions
  - $17 million

- Risk-based approach to testing
  - Worked closely with Investigations
  - Developed risk indicators (previous and new)

Risk Factor Flags

- **Approving official** has a span of control of 5 or more card holders (Risk value = 1)
- **MCC codes** – Transactions with
  - Suspect MCC codes (Risk value = 2)
  - Blocked MCC codes (Risk value = 3)
- **One-to-One** – Transactions in which the merchant did business only with that particular NSF card holder (Risk value = 2)
- **Weekend and holiday purchases** – Transactions on Saturday, Sunday, Holidays (Risk value = 3)

- **Suspect Level 3 Data** – Flags transactions with Level 3 data deemed suspect based on manual review. For example, possible personal purchase, possible split transaction, questionable legitimate business need.

    (Risk value = 3)

- **Possible Split Purchase** – Card holder has multiple purchases from the same merchant totaling more than $3,000 on the same day or within a few days.

    (Risk value = 3)

Example of Level 3 Data

Transaction Detail With Purchase Addendum
NSFSMP2

Tran Date	Post Date	Tran Id	Purchase Method	Merchant Name	City	State	MCC Code	Debit Amount	Credit Amount	Tax
HOLDER, PURCHASE CARD ************1234										
08/08/2013	08/09/2013	12345678	In Person	BEST BUY 00008433	OTTUMWA	IA	5732	$1,604.94	$0.00	$0.00

QTY	Description	Unit Cost	Line Item Total	Product Code	Unit of Measure
1	$50 APPLE ITUNES ICO	$50.00	$50.00	4056111	EACH
1	CLEAR CHARCOAL IWATC	$24.99	$24.99	2074092	EACH
1	$50 ITUNES CHILD	$0.00	$0.00	7256916	EACH
1	NEW RZ CARD FY12	$0.00	$0.00	2490532	EACH
1	OFFICE MAC HOME STUD	$69.98	$69.98	1303083	EACH
1	AO756-2623 - CELERON	$279.99	$279.99	5688602	EACH
1	OFFICE MAC HOME STUD	$0.01	$0.01	1308816	EACH
1	RZ CERTIFICATE EMAIL	$0.00	$0.00	6072313	EACH
1	APPLE 100.00 CHILD $	$0.00	$0.00	9603002	EACH
1	SVE15115FXS - 15.5/I	$629.99	$629.99	5570073	EACH
1	16GB NANO 6TH GEN GR	$149.99	$149.99	1161934	EACH
1	SOUNDLINK WIRELESS M	$299.99	$299.99	2989098	EACH
1	$100 APPLE ITUNES IC	$100.00	$100.00	4056157	EACH

Questions?

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