Gaining Insight from Incident Analysis to Manage Future Incidents
When you think of power outages and related incidents, you might visualize massive blackouts over a city—miles of suddenly darkened neighborhoods, car crashes, shouts in the night, a populace cowering in their homes. Pure Hollywood stuff. The reality for most utility and power companies—and other companies affected by incidents—is that the cumulative impact of many small incidents spread over time simply makes it expensive and difficult to operate in today’s heavily regulated utility infrastructure, which relies on outmoded technology.

In recent years, it’s become increasingly tough for utility and power companies to respond in a timely manner to incidents. Four main drivers account for these challenges.

First, the industry has had to contend with new regulations from the Federal Energy Regulatory Commission (FERC), and the North American Electric Reliability Corporation (NERC). Collectively, these regulations raise the bar for utilities and power companies by making compliance more challenging—and potentially expensive—to enforce.

Second, the average age of knowledge workers in today’s utilities and power companies is rapidly increasing. Their expertise will be lost at retirement and may prove incredibly hard to replace.

Third, tightened credit due to financial instability in the world economy makes it difficult to modernize infrastructure, thus exposing utilities and power companies to increased risk for incidents that inevitably occur with an aging core of equipment and systems.

Fourth, because mergers and acquisitions have become widespread in the industry, these events are forcing energy and utility companies to share information in a consistent format, which is typically quite difficult for organizations of the size and complexity of most utilities.

Many additional challenges have emerged that adversely impact the ability to provide reliable service.

These challenges include the following:

- Manual or inconsistent incident reporting processes
- Little visibility into the status or number of active incident reports
- Inability to identify or understand incident trends and prevent future risk
- Distributed and disconnected content and metadata associated with incidents
- Exposure due to non-compliance
Conventional Approaches No Longer Work

Typically, incidents are communicated by telephone or email, and involve manually-generated reports. What’s more, operations departments use cumbersome procedures that make it challenging to organize and process data used to analyze an incident’s root causes. Then, when human errors inevitably occur, equipment malfunctions, or a process fails, incident reports have to be created to document the incident occurrence, investigation, analysis and remediation.

In an environment that relies on outdated infrastructure and continually evolving and complex compliance requirements, it’s tough to provide incident investigation and remediation services in a timely manner.

Assets, processes and operations procedures are often isolated without any integration between different departments that need to participate in the analysis of an incident. What’s more, analysis team members lack a universally accessible and easily searchable central repository of current and historical events and their corresponding analysis and resolution.

Crucial information access and a centralized repository can help accelerate root cause analysis, failure trending, action item assignment, and executive notification. Collectively, these activities effectively facilitate remediation activities. Obviously, maintaining infrastructure is critical to every business’s operations, so it’s vital for information to be accurate. Complete event documentation is also a key requirement in order to be in compliance with the regulations of local, state, and federal agencies.

For these reasons, many utilities and power companies are looking for more efficient ways to report and remediate incidents. As a manager of a major regulated utility company on the east coast expressed it, “We were primarily looking for accountability, incident reporting availability, and ultimately to maintain compliance with NERC guidelines. We’ve seen some cost savings now that personnel can spend more time working on incident reports, rather than searching through emails, and potential savings in compliance.”
Proactive Incident Reporting and Remediation: A Potential Solution

A possible solution to these pressing problems lies in practicing a proactive kind of incident reporting and remediation that gets ahead of incident-related issues before they actually become problems. A solution such as this would have the following characteristics:

1. The solution needs to improve manual or inconsistent processes by using case management to streamline methods of incident investigation and remediation.

2. With little visibility into the status or number of active incident reports, case and content analytics must be implemented to provide instrumentation and deep-dive analysis in order to understand incident trends and prevent future risks.

3. Distributed and disconnected content and metadata associated with incidents make reporting and remediation difficult. In order to address this challenge, using the power of a centralized storage and security platform is essential.

4. Conventional incident reporting and remediation exposes a utility or power company to incident risk as a side effect of non-compliance. Therefore, the solution needs to include a methodology that tracks incidents from initial report to final resolution.

A Methodology for Modernizing Incident Reporting

Such a comprehensive methodology needs to include all the following sequential, integrated steps:

Classification: The solution requires a streamlined system with some automated processes in order to choreograph all the complex steps involved in reporting and remediation. The system enables users to create an incident report using a custom mobile application or by using a platform such as the IBM Case Manager interface, for example. The report then enters the Classification Phase, where a rules engine suggests an incident owner and lead analyst, based on where the incident occurred and the incident type. In such a scenario, business rules and company policies dictate the required fields and information.

Analysis: If investigation is needed to identify causes, the report is sent to the Analysis Phase, where analysts report problem statements, identify testing requirements, and assign action items to drive the incident investigation. This approach structures the analysis to ensure that every step in the process is completed in a timely and comprehensive manner.
Investigation: Responses to action items and testing results created in the Analysis Phase are captured—and responded to—by responsible parties. The solution needs to allow the creation of additional action items and testing requirements in this phase.

Findings Documentation: After the investigation, all the Analysis Phase and the Investigation Phase results are documented. The lead analyst on the incident decides whether remediation is needed.

Remediation Identification: If necessary, remediation items are created that must be completed before the incident is closed. If the remediation items are created, the lead analyst assigns remediation tasks and tracks them to ensure they are completed. Responsible managers then accept assigned remediation items as necessary to complete in an incident’s post mortem. In some cases, updating a procedure can take months to accomplish, even in the case of low-severity incidents.

Causal Analysis: This phase covers identifying incidents that require a formalized report, such as incidents that meet criteria. These include property damage, injury, and other items that require a formal report suitable for public distribution. More granular criteria such as the amount of property damage, the degree of personal injury, and so forth, can be taken into consideration. The Causal Analysis results then flow to the Approval phase, which requires additional analysis to communicate investigation results, conclusions, and remediation items.

Approval: The Incident Owner has a final chance to review and accept the investigation and the remediation plan, reassign it to another owner, or request a Causal Analysis revision.

The ultimate payoff for implementing streamlined incident reporting and remediation for today’s utilities and power companies is a comprehensive and central repository for all incident reports. This repository also offers a way for users to manually upload pre-existing incident reports on demand. The content in all incident reports that are created on a system-wide basis are also searchable by predefined key fields and keywords. The result is streamlined, centralized, incident reporting and management that helps you find the fastest path back to normal.
Now available from TriTek Solutions: Incident Insight

**Incident Insight** is a centralized, incident reporting and management solution from TriTek Solutions, an IBM Premier PartnerWorld member, which includes all the functionality detailed previously. The system architecture is pictured below.

**Incident Insight Architecture**

The **Incident Insight** solution provides energy and utility companies with a standardized incident reporting process and centralized electronic system for creating, distributing, investigating, and remediating incident reports. **Incident Insight** uses **IBM Case Manager**, an award-winning platform that gives users a 360-degree view of cases, built on top of the robust IBM FileNet P8 platform for enterprise content management.

The solution offers connectors to integrate with industry leading asset management software to provide comprehensive asset life cycle management and identify asset failure trends. Essentially, the **Incident Insight** solution focuses on migration from a paper-based, manual incident reporting system to an electronic, fully integrated system.
Making such a transition has a number of significant benefits. With it, you can:

- Provide a single, centralized system for tracking all incidents throughout their lifespans, from creation to remediation
- Create and enforce a standardized incident tracking procedure across multiple business groups
- Track, review, and properly document incidents in a coordinated and consistent manner
- Capture trends in failing equipment and use this data to improve asset management procedures and predict the possibility of incidents on similar pieces of equipment, thereby reducing future risk
- Discover common modes of failure that are not currently tracked
- Provide storage and search methods for archived incident reports, including both historical reports and those created by the system
- Capture an accurate audit trail of all incidents to meet compliance requirements
- Track task status and get alerts through email notifications
- Generate simple reports for management to monitor employee productivity and overall infrastructure stability
- Grant access roles and permission levels to maintain a high level of system security
- Get automated notifications throughout the incident’s lifecycle to ensure executive awareness and timely remediation
About IBM ECM

Enterprise content management solutions from IBM help companies realize the strategic value of content for better insight and outcomes. IBM ECM delivers high-value solutions that can help companies transform the way they do business by enabling them to put content in motion: capturing, activating, socializing, analyzing, and governing it throughout the lifecycle. IBM can help organizations identify critical content within large information volumes and prioritize it to gain insight to inform business decisions. We help businesses put the right content in the hands of the right people at the right time while effectively managing the cost and risk of enterprise content from capture to disposal. IBM has provided ECM solutions to more than 13,000 companies, organizations and governments around the world, helping them remain competitive through new intelligent innovation.

About TriTek Solutions

TriTek Solutions, an IBM ECM Software partner since 1998 and Premier PartnerWorld member, specializes in the integration of Enterprise Content Management products and related technologies. With over 100 consultants, TriTek has become the leader in the design, development and delivery of Enterprise Content and Business Process Management solutions. Offering industry-specific applications for the energy and utilities, financial services, insurance, and government verticals, TriTek is dedicated to solving the greatly varied and complex business problems of its customers.
Resources

We hope you find these resources helpful as you seek more information about IBM ECM and TriTek Solutions.

Solution Profile
Download a quick overview of TriTek Incident Insight.

Want to see how Incident Insight can benefit your organization? For more information, contact:

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