Spire, Inc.

Natural Gas Enterprise Emergency Curtailment Plan

October 2021

Plan Priorities

1. Life Safety
2. Property Protection
3. Incident Stabilization

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Document Change Record

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Publish date/ document version	Status (Baseline, revision, cancelled)	Pages(s) affected	Description of revision	Author
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Section 1: Introduction

Background

This plan details the coordination and management of a natural gas emergency curtailment that is scalable to meet small and large response efforts. This plan utilizes an all-hazards approach to gas supply disruption(s) and will be leveraged with several other plans in the response to an incident.

The all-hazards approach is based on the concept that while the causes and types of incidents can vary widely and be hard to predict, the basic functions needed to respond are relatively similar from one incident to the next. For example, regardless of incident type, Spire needs to be able to:

- Know who is in charge at every point during an incident
- Conduct initial notifications and/or dispatch specific individuals or resources
- Conduct initial response and life safety activities
- Preform an initial assessment of the situation
- Brief others that need to be engaged or notified
- Determine incident status, objectives, and priorities
- Determine strategies and tactics to meet those objectives
- Determine the resource and logistical needs to support the plan
- Communicate the plan with those completing the work, even across shift changes
- Communicate with other stakeholders, responders, and the public per the direction of the IST Chair
- Evaluate the objectives, strategies, tactics, and resource needs regularly as an incident progresses
- Complete an orderly scaling-down of the event
- Return to normal in a way that ensures resources are ready to be used again

This concept allows a Spire, or any other organization, to focus on building and improving these functions over time rather than having a completely different approach for every type of incident. In practical terms, it allows an organization to worry less about planning for everything and transitions the focus to planning for anything; building response capabilities that can be used in any combination and scaled up or down depending on the type, scope, and complexity of the specific emergency. Once that common foundation is established, supporting guidance, resources, or procedures can be added for specific incident types.

Spire's natural gas system is an interconnected system between multiple regions (states & territories) and includes the equipment, systems and processes to manage and maintain the supply of natural gas to end-users. The interconnected nature of the natural gas system means that a natural gas supply shortfall in one region has the potential to impact other regions. This infrastructure is managed with economic and legislative frameworks that, among other things, seek to minimize disruptions and facilitate prompt restoration of supply.

A secure and resilient Spire natural gas supply is supported by:

- Transmission pipelines that are interconnected at strategic locations
- Line pack - gas stored within the pipelines
- System design that includes levels of redundancy
- Gas storage facilities
- An effective gas market capable of managing supply and demand imbalances
- Preventative maintenance performed by infrastructure owners and operators
- SCADA related systems and processes

Potential Causes of natural gas supply outage

Following progessive emergency curtailments actions to preserve, a planned and/or unplanned outage may occur. A supply outage can occur as an isolated incident impacting a street, suburb, town or city, or as a broader event that impacts multiple towns, cities or regions. A supply outage can be a result of an incident within the natural gas system itself (e.g. equipment failure) or be the result of an external incident which impacts the system (e.g. winter storm, earthquake, cyberattack, etc). Without appropriate and prompt action, the gas pressure within the pipeline and/or distribution system can fall below the minimum level required for effective and safe operation and result in the complete loss of supply to a community.

Potential Consequences of natural gas supply outage

The economy and community are heavily reliant upon natural gas supply for areas such as chemical processing, electricity generation, food processing, heating, cooking and utilities. A supply outage therefore has consequences for businesses, essential services and households. The consequences of a supply outage will vary greatly according to the type of incident, location in the supply chain, the number and type of customers affected, the time (month, week or day), and the duration of the incident.

The time for restoration of supply can vary from hours to days or weeks depending on the nature, location, cause of the incident, number of customers impacted and the complexity of the repairs required. Most natural gas supply disruptions are of short duration and result in minimal impacts to households and businesses.

Purpose

This plan is intended to complement Spire's overarching Crisis Management Plan (CMP) and each departmental and business unit continuity plans, which focus on preparedness, mitigation, response, and recovery efforts that are specific to a major natural gas supply disruption.

Scope

This plan relates to Spire's interconnected gas supply system in all territories and is intended to:

- Provide information about the natural gas system and the potential causes and consequences of a supply curtailment and/or outage

- Outline early indications of supply issues that can be addressed in order to avoid supply disruptions
- Outline relevant roles and responsibilities during a natural gas curtailment
- Outline principles for efficient and safe curtailment and restoration of natural gas supply
- Outline internal and external communications, the coordination of notification among effected organizations, stakeholders, and the public

Section 2: Incident Roles & Responsibilities

The roles and responsibilities outlined below are adapted from FEMA's Incident Command System (ICS) structure, which acts as a guide for designation of roles and responsibilities with applicability to all-hazards. The ICS is used throughout Spire's crisis management processes and procedures, facilitating the collaboration with external organizations. Reference Spire's CMP for further details.

CurtailmentCore Team (CCT)

When a potential or actual curtailment occurs, the Spire's CCT will support emergencycurtailment and outage activity by assisting local response teams, the Spire Incident Support Team (IST), and/or the Spire Crisis Management Team (CMT). The Curtailment Core Team is made up of Spire representatives from each department listed below: .

- **CCT Command layer:** Curtailment Core Team (CCT) Lead, Corporate Communications, and Crisis Management
- **Team Layer:** Gas Control, Gas Supply, Gas Operations, Business Economic & Development, Field Operations, Customer Experience, and Project Management

Local / Site Response Teams

The majority of incidents or emergencies occurring in Spire operations will be successfully managed at the local level. The regional offices, gas operations sites and other operating locations and/or offices working in conjunction with Gas Supply and Gas Control will retain responsibility for immediate response actions by implementing emergency response processes and procedures.

Local site response are made up of all the teams at a site that may be called upon to respond to alarms, emergencies, service issues and potential incidents. The incident response is led by a local manager who has oversight of all local response actions.

Incident Support Team (IST)

The IST is responsible for ensuring that the appropriate resources necessary to manage an incident effectively are accessible. Such resources may include personnel, equipment and fittings, contractors, funding, fuel, facilities and/or supplies not immediately available to the local/site response teams. In addition to supporting the site, the IST serves as the information clearinghouse for all data and information about the incident. The IST is charged with keeping executive management and leadership informed about

the incident and the progress being made to resolve it regardless of whether the Crisis Management Team (CMT) is activated. In the event the CMT is activated, the IST is charged with coordinating the Spire-wide response to an incident and carrying out the direction and decisions of the CMT.

- **IST Activation Determination:** Made by VP of Gas Supply , VP of Enterprise Risk, and/or Director of Security & Crisis Management. If VPs are unavailable, escalate to relevant Business Unit President
- **IST (ad-hoc) Layer:** may include, but not limited to HR, Safety, Security, Legal, Claims & Insurance, Supply Chain, Engineering & Operations, Compliance, etc.

Crisis Management Team (CMT)

The CMT is the corporate-level decision-making body for the response to all incidents and/or emergencies that have potential to become a crisis to Spire. Membership of the CMT is composed of Spire senior executive leaders with authority to commit and direct corporate assets for responding to any type of major incident or crisis. Additional information and participants of the CMT are identified within the Crisis Management Plan.

Section 3: Contingency Planning Assumptions

The development of Spire's Emergency Curtailment Plan is based on the following assumptions:

- There is a possibility for emergency curtailment based on weather and/or supply, in the future
- Although there may be geographically isolated instances, curtailment could affect all service territories in the states in which Spire operates
- When curtailment occurs, alternative gas supply may be unavailable, and we will have to allocate available gas supply on a priority basis
- The emergency response will require substantial interaction of federal, state, local agencies and authorities
- Response to the demand for natural gas services may require non-standard approaches
- Personnel will need to be allocated and managed differently to conduct essential business processes
- Curtailment may need implementation with no advanced warning and gas disruptions can occur at anytime
- Interdependencies with other segments of the Oil and Natural Gas sector (producers, pipelines, distribution companies) and other critical infrastructures (Communications, nuclear, electricity, water, transportation, emergency services, etc.) as well as contractors and suppliers will be severely tested during major supply disruptions
- A sufficient number of critical personnel will need to be available to ensure the safety, security, operation, and maintenance of critical systems, facilities, and infrastructure

- Personal protective equipment (PPE) and others supplies may not be readily available

Section 4: Curtailment Response Actions

Responsible curtailment-related stakeholders at all levels should be prepared to implement flexible and scalable administrative, operational, and safety/security response strategies that are designed to decrease the magnitude of impact to our communities, our workforce, mitigate or resolve the potential impact, and ensure the continuity of operations for the duration of a curtailment.

Responsibility for Initiating the Emergency Curtailment Plan

The local/site response team(s) will coordinate with the CCT to determine the amount of load curtailment required and the anticipated period the curtailment will be in effect and ultimately if response will require IST integration.

- Crisis Management can assist with coordination of annual training/exercise and real-world activations

Advance curtailment notification will be conducted, if time permits. Sometimes no-notice incidents occur that prevent timely notifications that an outage will potentially or will definitely occur.

During periods when the demand for natural gas service exceeds available supplies, the public interest requires the curtailment of natural gas service be controlled in a manner which will be equitable to all customers, will provide the greatest benefit for the greatest number of people and will be consistent with the way in which gas service is supplied to a utility by its pipeline supplier. Curtailment of natural gas service shall be in accordance with the priority categories set forth below, following the order of categories listed as closely as reasonably practicable.

Spire may, due to localized restrictions in natural gas supply or localized problems or force majeure events on the Spire's distribution system or on interstate pipelines, curtail only specific locations on Spire's distribution system, ie zone isolation mitigation, if this limited curtailment is sufficient to control natural gas pressures. The order of categories listed in each State's tariffs' curtailment priority categories may vary (refer to Regulatory and Legal for assistance in translating State tariffs.) Spire may limit or deny service in a manner that maintains service to the largest number of customers. State tariffs can be found at the link Local Natural Gas Rates and Tariffs | Spire Inc. (spireenergy.com).

- Spire has the right to physically disconnect and/or disrupt the natural gas supply of transport/interruptable customers if non-compliance to an order to curtail usage
- Transport/interruptable customers are responsible for additional charges for unauthorized use upon failure to curtail natural gas requirements when notified by Spire. The additional charge for unauthorized use shall be assessed as follows:

- During a curtailment when interstate pipeline capacity is not limited, the additional charge shall be the greater of incremental cost to Spire that results from a failure to curtail or interrupt, or defined cost per Mcf/Therm for natural gas used in excess of the maximum quantity level allowed by Spire.
- During a curtailment due to capacity limitations on interstate pipelines, the additional charge shall be the greater of incremental cost to Spire that results from a failure to curtail or interrupt, or defined cost per Mcf/Therm for natural gas used in excess of the maximum quantity level allowed by the Spire. Incremental cost, as referenced above, shall include any interstate pipeline penalties incurred as a result of customers' failure to curtail or interrupt, as well as the total cost of incremental interstate pipeline capacity and/or natural gas commodity purchased to serve customers' load on the day(s) of curtailment or interruption.

Curtailment Management Process

In the event Spire is unable to meet total natural gas requirements due to extreme weather, reduction in supply, or other system operating conditions, they may require the temporary curtailment of natural gas loads to the maintain service required to protect basic needs. The curtailment reduction will be accomplished through a process which is designed to protect industry, commercial enterprise, and human needs during periods of supply shortages.

Spire also has the right to alter their process on a system wide basis in the event it becomes necessary to protect isolated areas from a supply shortage. This deviation will be limited to the extent required to protect basic human needs.

Prior to enacting a Curtailment process, Spire will ask customers to voluntarily reduce their usage of natural gas. Curtailments will not be applicable to hospitals, nursing homes, and other human needs situations. Spire to coorindate and collaborate on additional critical needs categories with relevant Emergency Management partners as required.

Outage Management Process

1. Outage area and impact is determined
2. Turn off orders are automatically generated for field personnel
3. Automated outage communication is launched to impacted customers via text, email and/or phone
4. Field personnel turn off all meters at impacted homes and businesses
5. Distribution system recovers (i.e. pressure and flows build back up) or repair/maintenance is performed to correct the source of the outage
6. Reconnection orders are automatically generated for field personnel
7. Automated reconnection communication is launched to impacted customers via text, email and/or phone

8. Field personnel go building by building to turn gas on and perform a safety check on appliances

Departmental & Business Unit Response Actions

The following information depicts general departmental and/or business unit (BU) response actions for any curtailment and/or outage response. Stakeholders below may utilize this information as a starting point to design, develop, and implement specific playbooks.

All Curtailment Stakeholders

- Identify manpower needs (i.e. shift-work, staggered shifts, flex scheduling, etc.)Determine implementation of 24/7 on-call list
- All departments and BUs must ensure they enable a primary and alternate point of contact and lines-of-succession are in-place for the duration of the incident
- Build and maintain awareness and understanding of the effects of a curtailment locally, regionally, nationally, and on Spire operations from a departmental perspective
- Build and maintain continuity of critical processes and essential business functions
- Provide support of personnel needed for continuity of essential business functions
- Keep key stakeholders informed of any evolving situation that threatens to degrade and/or disrupt essential functions or critical supporting business operations
- Review all planned work projects (e.g., computer system upgrades, construction and maintenance projects, etc.) for next several weeks and determine which ones are a priority and which ones can be deferred until after the curtailment
- Determine if deferral of non-critical planned work projects (e.g., computer system upgrades, construction and maintenance of T&D) is needed
- Determine if emergency-temporary changes of Spire policies and procedures are needed, per CMT approval

Crisis Management - Actions

- Assist team(s) by providing threat and incident information for situational awareness
- Assist with local, regional, state, and enterprise-wide emergency curtailment and outage response coordination and notifications
    - Monitor, analyze, and coordinate resiliency status of other energy resources to determine if cascading impacts will effect Spire's response and recovery efforts
    - Assist with tracking and reporting of local, regional and/or Spire-wide operations

- Support department and BU resiliency by aiding them in identifying essential business activities (and the core people and skills to keep them running)
- Coordinate with local, state, and regional Emergency Management Partners, to include FEMA's Private Sector partners to plan for contingency operations
- Plan for phased implementation of applicable elements of business-continuity, business-resumption, and curtailment-response plans, in conjunction with other organizational response teams.

Business & Economic Development - Actions

- Coordinate with Gas Supply and Gas Control to understand minimum supply requirements and availability
- Prepare for curtailment(s) by coordinating with CCT
    - Determine incident escalation criteria; each incident has unique thresholds for response activation
    - Identify likely customer-base impact (i.e. Large/Small Industrial, residential, etc.) – accounts and locations
    - Determine if and when early communication to customers is needed, if possible
        - Note: Customer communication, gas supply redundancies, and marketer participation capabilities vary in AL, MO, and MS
    - Determine if Spire has any existing or forecasted system constraints
    - Identify what current and forecasted regional gas supply disruption thresholds exist
        - Determine potential customer impact based on current curtailment priority categories and time of year (seasonality/weather/etc.)
    - Determine best options for real- and/or near –real-time transportation tracking
- Determine customer communication plan(s); coordinate with CCT and take action
    - Determine if Spire's regional Large/C&I Customers and marketers require different approaches for communications
    - Spire should disconnect natural gas service in accordance with curtailment procedures
    - Determine if any decisions made should funnel to representatives in Contact Center & Dispatch to assist with response(s)
    - Utilize state tariffs as starting point for prioritized customer communications (i.e. Legal and Regulatory to assist with translation)
- Determine if additional manpower and/or resources are needed to assist with departmental response efforts and coordinate requests with IST
- Share information on alternative fuel capabilities and options for locations impacted by curtailment

- Determine the need for and perform customer indexing
- Determine correct contact person(s) during business hours and after business hours; ensure contacts are trained from a Spire perspective
- Notify Meter Department, IT, Contact Center, Dispatch and Meter to Cash of curtailment.

Customer Experience - Actions

- Review and implement communication plans and coordinate with curtailment core team
    - Notify Customer Experience workforce for higher than normal call volumes
    - Notify PSC Customer Service Group
    - Curtailment communication process; utilizing current systems for outages and launch calls, emails, texts
- Assist with the development and implementation of customer message with curtailment core team, including IVR (automated call systems) and website
    - Utilize outage page (tailor as broadly as possible, may need several sites)
- Provide updates to CCT, local/site response teams, IST, and/or CMT, as required
- Determine if Engineering and Operations (i.e. GIS) can assist with mapping of potential customer impacts
    - Polygon to indicate locations, amount of customers, types of customers, and other relevant planning data
    - Share information with Business & Economic Development, Workload Planning, Corporate Communications, Dispatch, Field Operations, and Security
- Identify and share information pertaining to any existing or forecasted internal/external outages (physical or IT-related) that may hinder response and communicate adjustment(s) accordingly
- Determine capability to work remotely in effort to expedite response processes
- Determine if augmentation of emergency support is needed

Corporate Communications - Actions

- Coordinate and collaborate with CCT
    - Teams needing talking points: Workload Planning, Gas Supply, and Customer Experience, GIS, Regulatory, and Legal to also be included
        - GIS can provide polygon for precise list of customers, customer types, and businesses impacted for messaging
- Prepare for and implement internal/external communications with CCT
    - Preparedness and response messaging
        - Pinpoint location and timing to communicate voluntary load reductions. Develop and implement standardized message for curtailments
    - Determine best customer communication channels: email, text, calls, and/or other options to disseminate messaging

    - Consider utilizing Air-Table to assist w/public affairs and 'Outage Splash Page' in specific locations
    - Work with Customer Experience to determine if IVR and My Account should be updated with messaging
    - Spire Curtailment Infoline (if applicable)
        - Local # & 1-800 #
        - SpireEnergy.com/Curtailment Forecast
- Prepare and launch automated outage communications process. (Available in all regions, except Mississippi)
- Identify key operational stakeholders associated with incident and maintain direct-line of communications
    - Determine thresholds for reaching out to media
    - Identify 3rd party-related communication contacts and build/maintain connectivity (i.e. gas suppliers, law enforcement, emergency management, Non-Governmental Organizations (NGOs), etc.)
    - Ensure unity of message via clear and open communications to employees, families, stakeholders, and the community (public appeal to customers)
    - As new information regarding the situation becomes available, disseminate accurate, timely information to key stakeholders and/or IST
    - Remain vigilant of any misinformation that is propagating and disseminate the correct information.
    - Coordinate recovery operations messaging as the effects of a curtailment subside.

Supply Chain - Actions

- Support CCT with 3rd party information and resources, as needed
    - Maintain and share vendors/contractor emergency response points of contact
    - Notify key stakeholders of any potential supply chain disruptions that may affect inventories
    - Identify key supply chain requirements and take appropriate measures in advance to ensure availability of critical materials and supplies from vendors and suppliers who may also experience disruptions in manufacturing or delivery capabilities.
    - Assist by providing lodging accommodations and meals for employees and external mutual aid that are assisting response efforts

Workload Planning & Dispatch - Actions

- Maintain connectivity to CCT and/or IST to bridge any communication disconnects between Field Operations and Business & Economic Development
- Coordinate with Field Operations to aid in efficiencies and speed of response
    - Assist with determination of number of employees with specific skills and equipment needed and compare to current availability
    - GIS to provide region- or district-level information and identify downstream customer impact

        - GIS can provide number of customers, types of customers, and locations impacted
        - Update jobs due to reallocating resources
        - Gain understanding and provide information pertaining to turn-offs and turn-ons with associated timelines for completion
        - In MO-East, effected grids to be identified
        -
- In emergencies, Dispatch may be able to assist Workload Planning efforts.
    - Note: Workload Planning is not staffed 24/7, but Dispatch is staffed 24/7
- Can leverage Click, Spire's field workforce planning and scheduling software, to support tracking areas of disconnects and relights

Legal - Actions

- Interpret and translate, to the CCT, the legal obligations and rights Spire has if contracts are fulfilled, which can include tariffs and enforcement of penalties
    - Maintain awareness for discussions with customer attorneys
    - Assist in evaluating options
    - If evidence is needed, share how key internal stakeholders can assist
- Maintain awareness and coordinate with curtailment core team, as appropriate

Facilities and Fleet - Actions

- During cold-weather events, take preventative actions to safeguard facilities and infrastructure (i.e. outside ice machines, hoses, restrooms, etc.)
    - Fill back-up generators / fuel procurement, if possible
    - Coordinate priority with fuel suppliers to ensure Spire is a priority
    - Reduce facility thermostats
    - Monitor temperatures; maintain awareness that temperatures may reach below the minimum effective temperature for compounds typically used to treat roads
- Maintain and share a list of facilities with back-up power generation and facility-drawings indicating what receptacles and/or areas are generation fed with curtailment core team, as needed
    - Note: Some Spire facilities lack back-up generation
- Assist operations in the event there is a utility outage (i.e. water, electric, etc.) for temporary staging locations
    - Assist with re-location of mobile generator(s), as available
- Coordinate with Corporate Security if resources are needed on location at certain facilities to assist with emergency operations
- Coordinate with Records Management and ITS to gain and maintain understanding what at-risk vital records and IT-equipment are at which location and determine actions needed to preserve

Safety - Actions

- Determine if outside weather conditions will place employees at increased risk cold-weather related injuries and implement safety-related mitigation measures

    - PPE needs, increased staffing, work in teams, frequent warming breaks, etc.
- Determine if any ad-hoc/emergency processes or procedures need implementation and for what locations

Corporate Security - Actions

- Assist local/site response teams and IST on any potential security threats
- Ensure the continuation of facility security, access control, and critical infrastructure protection functions
- Coordinate with key public safety stakeholders on location of outages
- Coordinate with local and state law enforcement and public safety officials in the event that on-site support during operations, especially after-hours, is needed.
- Assist with blocking streets and providing security (ingress/egress options); command post and staging area locations
- Determine if additional Security contractors can and should be sourced
- Expedite contractor approvals, if necessary
- Coordinate security at lodging facilities, if mutual aid is utilized
- Determine external security-related agencies and organizations that are needed to assist and develop notification process
- Coordinate with security personnel from gas suppliers
- Implement enhanced security plans (Pipeline, Facilities and SOC operations which includes employees in the field and dispatch)
- Help Identify Critical Customer Criteria based on DHS Principals and our already established RAACI model

Engineering & Operations - Actions

- Assist with determination and communication of curtailment root causation
- Kick off automated outage process (fencing areas)
- Coordinate with Gas Supply to receive 'Abnormal Condition Reports' to determine magnitude of situation
- Partner with Field Operations and support, as needed
- Evaluate and provide resources needed to support efforts
- Provide Instrumentation & Control potential number of customers, locations, etc.
- GIS-related information may assist w/mutual aid (internal/external) discussions
- Partner with System Planning to identify greatest potential to mitigate impact
    - Isolate certain sections of the system to preserve service to larger portions of the system (i.e. close critical valves to maintain pressure)
    - Determine if temporary and/or permanent reinforcements are needed and obtainable
    - Evaluate decision to bypass regulator stations
- Perform pipeline tracing, inlieu of polygons, to identify potential areas of supply shortages
- Evaluate if other regulator stations can be increased to maintain pressures

Gas Supply & Gas Control - Actions

- Provide notification to CCT of the system anomalies detected or forecasted through tracking and monitoring
- Determine escalation thresholds (i.e. monitoring, convene local stakeholders and/or IST, activation, and deactivation).
- Determine best courses of action for curtailment based on current information and forecasts
    - Determine if peak shaving is a viable option
    - Coordinate activities with Business Economic Development to inform transportation customers of curtailments
    - Coordinate also with System Planning to assess thresholds and regression models on gas supply to assist decision-makers
    - Identify & obtain external supply sources –pipeline suppliers or adjacent systems
    - Utilize internal sources of supply (LNG or CNG.. Peak Shaving) to mitigate impacts
    - Determine if manual actions are needed (timelines/thresholds)
    - Coordinate with Gas Control for gas supplier challenges
    - Communicate with suppliers and marketers, where appropriate
- Develop and implement periodic gas supply pressure updates to response teams (i.e. local,CCT, IST, and/or CMT), as needed
- Gather normal & emergency contact information for suppliers and ensure Spire is a priority customer
- Gas Supply to serve as main point of contact for Marketers partnered with Spire
- If upstream partner indicates potential and/or loss of gas, Gas Supply to determine actions relating to OFO's and/or Force Majures.
- Determine if Spire can meet or exceed demand
    - Observe real-time supply
    - Observe real-time demand/usage, if available
    - Use historical data to help understand demand
- Monitor pipeline electronic bulletin board(s) to assist with supply forecasting

Field Operations - Actions

- Prepare volunteer workforce process for internal and/or external mutual aid support
    - Likely Service Techs and Leak/Maintenance as early as possible
    - May assist with potential shut offs/turn-ons in effected areas
- Prep Spire vehicles and mobile command centers for usage
- Identify what non-essential work can be postponed until incident is over (coordinate with Work Load Planning)
- Determine and develop emergency work schedule plan and threshold for activation

- Determine any known deficiencies with the current readiness of Field Operations (workforce, equipment, resources, systems, etc.) limitations that would require internal/external mutual aid request.
- Determine if frost patrol is needed and assist if ice is in the lines
- Work with HR/Union Leadership to maintain situational awareness
- Determine if internal and/or external mutual aid is required, make request with Crisis Management, determine if OQ requirements are reciprocated and/or can get emergency/temporary approval, as needed
    - Determine if external mutual response would be more efficient in some instances
    - If shut-offs and/or curtailment large industrial customers is needed. coordinate with curtailment core team
- Coordinate with Workload Planning and System Planning to determine best course of action for Shut-offs & Re-lights
- Pre-position Field Operations, if deemed necessary.
    - Work w/GIS to identify customers affected
- Determine command post(s) and/or staging area(s)

Claims & Insurance - Actions

- If mutual aid is needed (Spire requesting or Spire providing), Crisis Management will include Claims/Insurance.
- Determine if work order/job task for high cost incidents and help track costs)
- Work with Finance Planning and Accounting to gather cost data for response actions

Regulatory & External Affairs - Actions

- Collaborate with Compliance to determine appropriate community contacts and/or authorities about potential gas disruptions
- Determine threshold to start coordinating with public officials (i.e. Mayor, Attorney General, City Officials, PSC Commissioner, etc.)
- Utilize Website associated with Mayor contact information, as needed
- Describe actions Spire is taking (i.e. Force Majure, Curtailment, Planned Outage, etc.)
    - Day-to-day, low-level occurrences may not necessitate communication.
- Coordinate with curtailment core team to determine actual and worse-case scenario impact of customers in the event of a curtailment
- Determine when to connect with authorities and notify of any curtailment of gas service to customers
    - Provide conditions and characteristics of curtailment; associated planning, preparedness or response actions for Spire

Operations Shared Services - Actions

- Compliance and Pipeline Integrity to work with Regulatory to determine when reporting is required to the PSC when a gas outage occurs

- Compliance and Pipeline Integrity to assist with the integration of other Spire emergency plans and provide resources to assist with compliance

Information Technology - Actions

- Develop, implement, and test the capability to support enhanced remote work options using virtual private networks or remote desktop protocol for designated "essential" personnel.
- Ensure continued technical and service support for mission essential functions and critical business operations is available 24/7 throughout incident
- Identify systems update schedule to determine disruptions to response

Finance - Actions

- Meet, as the situation warrants, to deliberate the status and impact of the curtailment locally, regionally, or enterprise-wide
- Assist with emergency fund allocations for essential personnel/operations, if possible.
- Support the need for expenses, purchases and vendor services to ensure "essential" personnel have logistical items to continue working at the organization's facilities.

Section 5: Mutual Aid

Mutual Aid & Volunteer Management Team

The American Gas Association offers its members (utilities, transmission, and manufacturers/suppliers/service providers) a voluntary, no-fee mutual assistance program designed to suit the wide variation of needs of its member companies across the United States and Canada. The program is based on a coalition of AGA member companies, which agree to a set of baseline provisions that govern mutual assistance and agree to populate and maintain the AGA Mutual Assistance Database with company-specific emergency contact information, field capabilities and other key resources available for mutual assistance. The purpose of the AGA program is to supplement local, state and regional mutual assistance programs and is intended for those unprecedented man-made or natural disasters requiring the dedication of response/recovery/restoration resources outside the limits of existing mutual aid programs. The incorporation of the AGA Mutual Assistance Program into a company's emergency planning portfolio enhances advanced planning and effectuates response efforts in time of extenuating circumstances.

Section 6: Recovery

The goal of recovery is to resume normal operations and services in a deliberate and prioritized manner. Generally, the same levels and triggers as used during escalation can be considered, in reverse, for the recovery process. Key elements of the restoration will be de-escalating in a manner and at a pace such that gas transmission reliability and resilience are steadily increased. Recovery to normal operations will be dictated by the scale of the incident. Specific recovery actions will be identified in regional specific curtailment plans.

General organizational actions will include, but are not limited to:

- Implementing orderly recovery and the resumption of normal operations as conditions and the available workforce permits
- Once Spire determines when the natural gas system is sufficiently stable and secure, IST will identify and determine who will communicate to stakeholders.
    - Crisis Management in collaboration with Core Curtailment Team will:
        - Facilitate the exchange of information concerning customers impacted in order to inform recovery operations
        - Facilitate the recovery of natural gas infrastructure where this cannot be achieved in the response phase
        - Conduct After Action Review with all relevant internal Spire stakeholders once the incident is concluded
        - Analyzing data from the curtailment and drafting or contributing to "after-action" reports and corrective-action measures
        - Completing work for financial reimbursement, as appropriate
- Staying informed of guidelines and adjusting action as needed
- Staying informed of federal, state, and local government restrictions
- Remaining vigilant for signs of forecasted depleted supplies/3rd party supplies

Section 7: Terms/Definitions

All-Hazards – Describes an incident, natural, technological, or human-caused incidents that warrant action to protect life, property, environment, and public health or safety, and to minimize disruptions. All-hazards planning approach can:

- serve as the basis for effective response to any hazard that threatens the jurisdiction;
- facilitate integration of mitigation into response and recovery activities; and
- facilitate coordination with the public and private sectors at the local, state, and federal levels of response during disaster situations that necessitate implementation of a unified approach

Business Continuity – The ability of an organization to provide service and support for its customers and to maintain its viability before, during, and after **an incident**

Business Continuity Plan (BCP) – Process of developing and documenting arrangements and procedures that enable an organization to respond to an event that lasts for a period of time and to return to performing its critical functions after an interruption.

Curtailment – The interruption of a customer's supply of gas at its delivery point. Curtailment occurs when a pipeline operator or distributor reduces the gas supply to a customer as part of its contractual arrangements to manage a gas shortfall.

- **Firm Transport** – uninterruptible gas service. This is the highest quality sales or transmission service offered to customers under a filed rate schedule that anticipates no planned interruption. Firm transportation service is usually associated with distribution companies that serve residential customers and other "high priority end-users," but can also apply to upstream pipelines and other customers.
- **Interruptible Transport** - which provides certain customers – mainly larger commercial and industrial customers that have dual-fuel capability – the opportunity to pay lower transportation charges by permitting the distribution company to interrupt their gas usage on short notice, generally in peak-load seasons. This type of natural gas service is subject to interruption at the option of the pipeline. It's also sometimes referred to as "best efforts." Tariffs for interruptible service are cheaper than firm service.

Force Majeure - A force majeure clause provides contractual relief related to events (such as war, a labor strike, or extreme weather) or effects that cannot be reasonably anticipated or controlled

Gas Distribution – Distribution of gas to customers through lower pressure networks over shorter distances and at smaller quantities.

Gas Transmission – Transport of gas at higher pressure, over longer distances, including across state-boundaries, and at larger quantities.

Incident – Set of circumstances that disrupt normal operating conditions, results in significant damage to a company asset or third-party property, injury to people or threatens our brands.

Monitoring - Continuous practices detect symptoms of a particular issue or condition once personnel have entered an area. Monitoring techniques may be like those used for screening; the key differentiator is that monitoring continues after the individual has entered the facility.

Operational Flow Order (OFO) – an order issued to alleviate conditions, inter alia, which threaten or could threaten the safe operations or system integrity of Transporter's system or to maintain operations required to provide efficient and reliable firm service.

Personal Protective Equipment - Equipment worn to protect personnel from hazards in the workplace that could cause injuries and/or illness. Commonly referred to as "PPE."

Recovery Point Objective (RPO) – The measure of how much data loss, in hours or days, is acceptable to an organization. The point in time at which backup data (e.g., backup tapes) must be restored and synchronized by IT to resume processing.

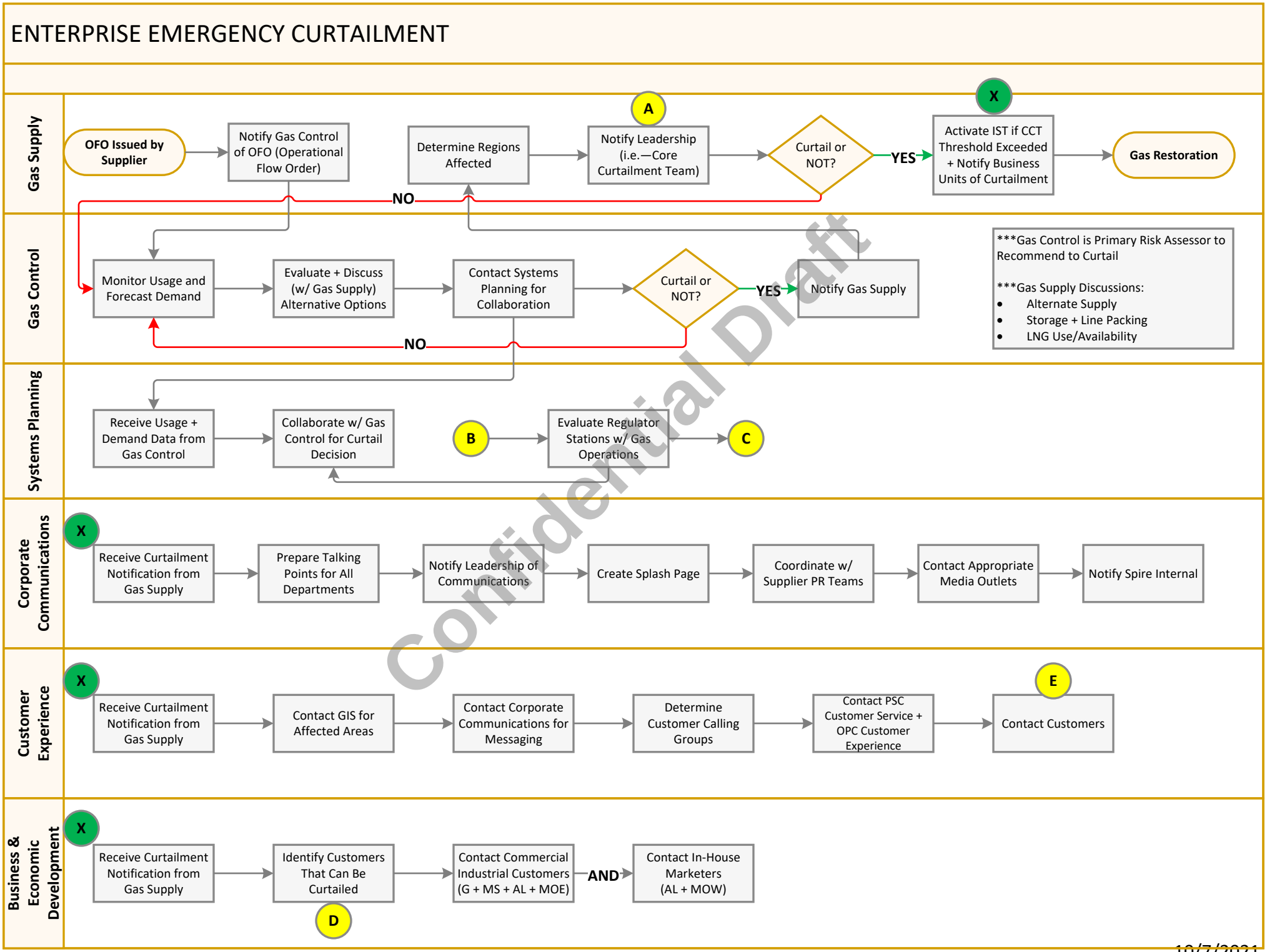
Recovery Time Objective (RTO) – The period of time within which systems, applications, or functions must be recovered after an outage (e.g. one business day).

RTOs are often used as the basis for the development of recovery strategies and as a determinant as to whether or not to implement the recovery strategies during a disaster situation.

Appendix A: Enterprise Emergency Curtailment Work Flow

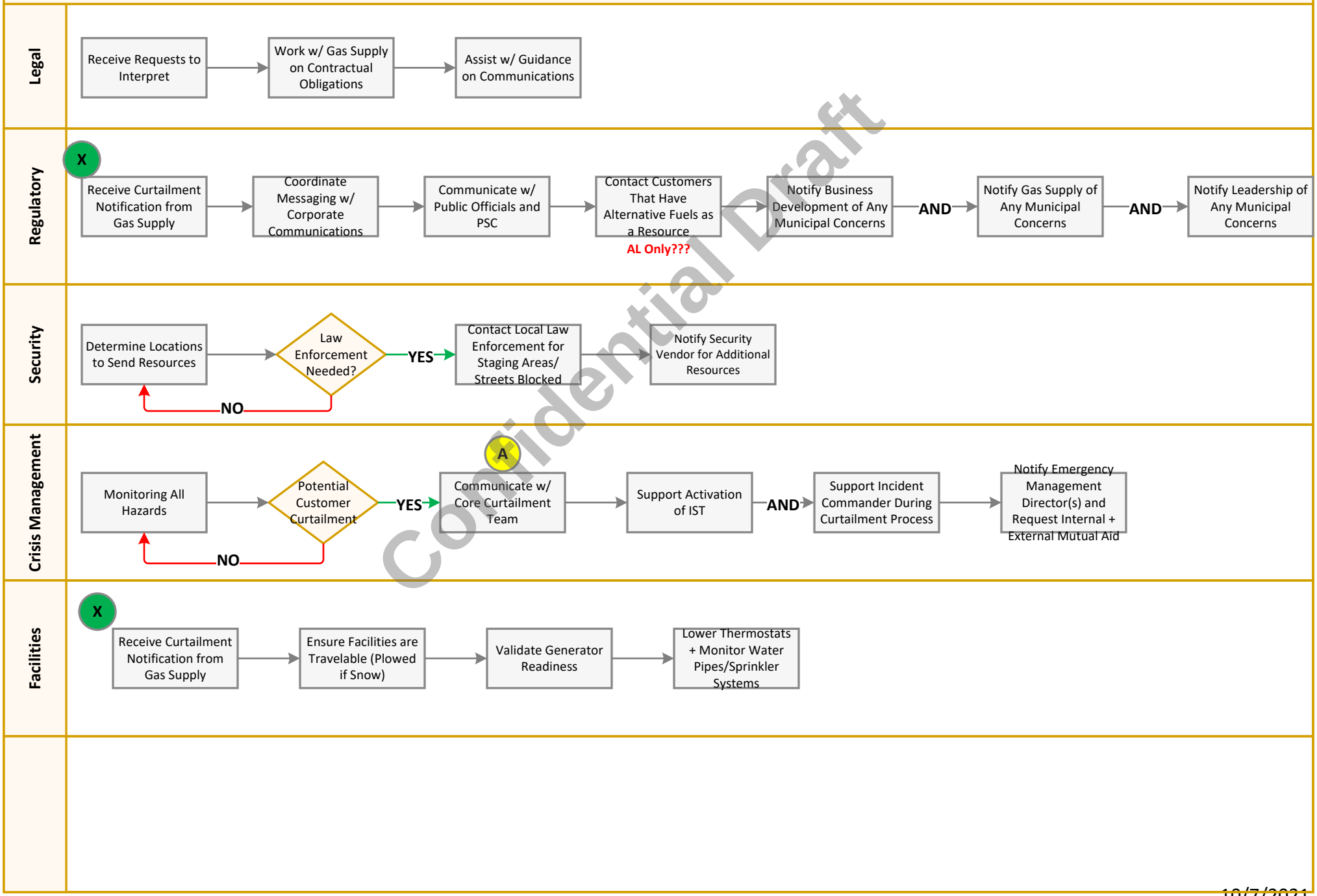
Insert hyperlink to completed document (Work flow attached in this version for reference)

ENTERPRISE EMERGENCY CURTAILMENT

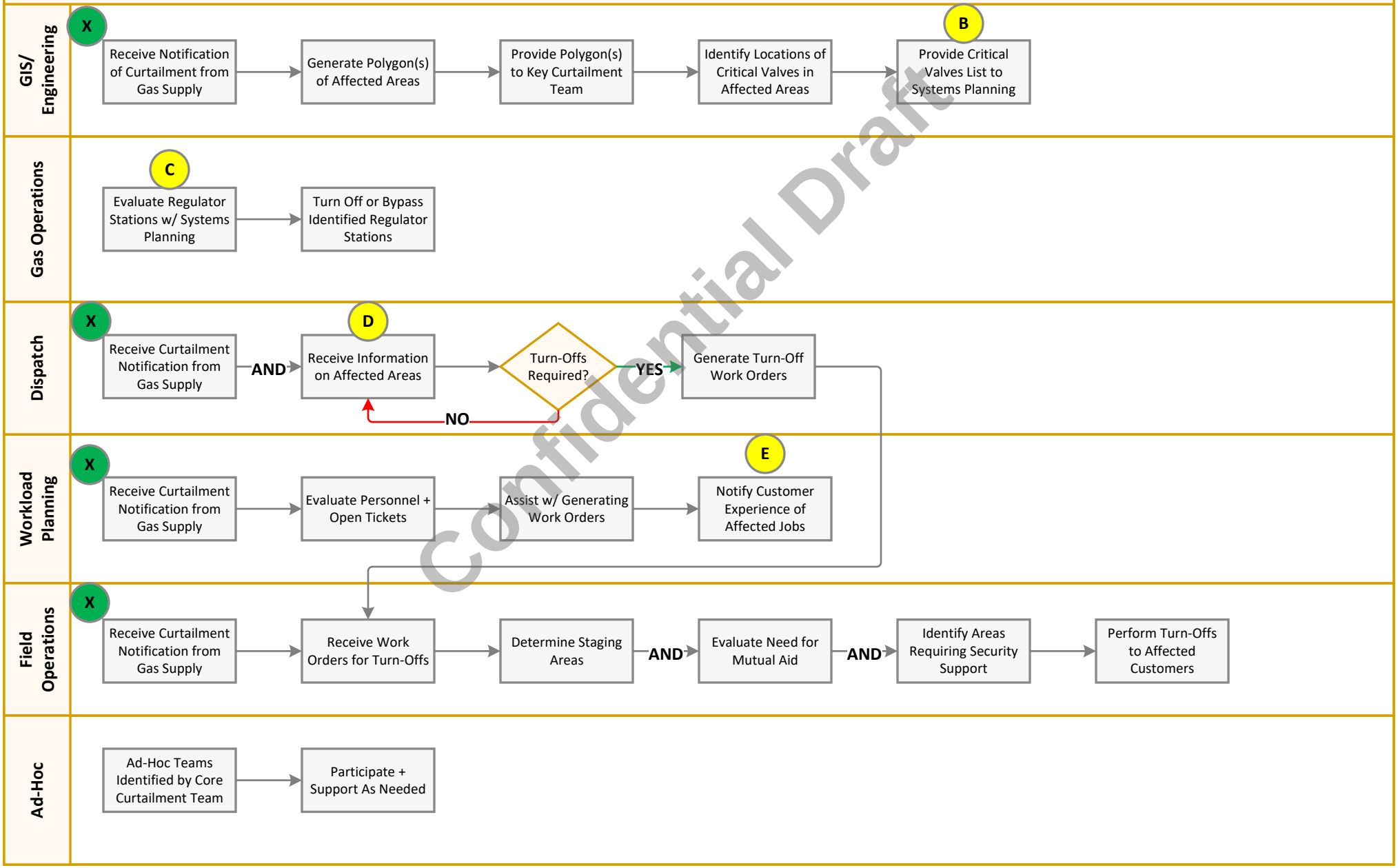


10/7/2021

ENTERPRISE EMERGENCY CURTAILMENT (pg. 2)



ENTERPRISE EMERGENCY CURTAILMENT (pg. 3)



Appendix B: Curtailment Playbook Template

The following Playbook is intended to provide an overview of key response actions, assigned responsibilities, and expected completion date. Information below will provide a common understanding for each Curtailment Plan stakeholder. Insert hyperlink to completed document (to be added at a later date following exercises)

Appendix C: Spire Missouri Response and Recovery Plan

Insert hyperlink to completed document (to be added at a later date following exercises)

Appendix D: Spire Alabama Response and Recovery Plan

Insert hyperlink to completed document (To be added at a later date following exercises)