

System Name: Deerfield United JETSB
Case # 26-M-412
Date Filed: 02/06/2026

Illinois State Police (ISP) Review of Plan Modification

Requirement	Information Included	Staff Comment
Contact and 9-1-1 System information	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Steve Pettorelli (Commander) 850 Waukegan Rd Deerfield, IL 60015 847-794-7577 (o) spettorelli@deerfield.il.us
Verification	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Letter of Intent	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Narrative Statement	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
1. Explain the reason for submitting the modification and provide the name and contact information for your certified 9-1-1 system, NGCS, and NOC/SOC provider	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	<p>Deerfield United JETSB is requesting to modify its 9-1-1 system by replacing their current on-premise call handling solution with the Carbyne APEX, cloud based, call handling solution.</p> <p>In the current solution, AT&T/Intrado have physical routers in place at Deerfield United that deliver ESInet and connect it to their current call handling system. The Carbyne solution will replace this architecture with two Points of Interconnect (POIs) in place of the physical, on premise routers. These POIs then connect to Carbyne's cloud infrastructure in the AWS GOV Cloud, East and West.</p> <p>Deerfield United JETSB is also requesting that the Riverwoods Police Department join the Deerfield United JETSB after leaving the disbanded Lake County ETSB.</p>
2. Explain the national standards, protocols and/or operating measures that will be followed.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	<p>The 9-1-1 System will comply with all State and Federal requirements and is compliant with the National Emergency Number Association (NENA) Standards including the NENA i3 Standard for Next Generation -NENA-STA-010.3a-2021.</p>

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3.	Explain what measures have been taken to create a robust, dependable, and diverse/redundant network and whether other 9-1-1 Authorities will be sharing the equipment.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	The Carbyne solution will have two Points of Interconnect (POIs) in place of the physical, on-premise routers. These POIs are located in geographically diverse locations, in data centers located in Dallas, TX and. These POIs then connect to Carbyne's cloud infrastructure in the AWS GOV Cloud, East and West.
4.	Explain what security measures will be placed on the PSAP's IP 9-1-1 network and equipment to safeguard it from malicious attacks or threats to the system operation and what level of confidentiality will be placed on the system in order to keep unauthorized individuals from accessing it.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Carbyne security plan is heavily redacted as there is sensitive information pertaining to their core infrastructure: they did provide a Security Incident Response Plan Policy, which contains the document outline, but no specifics. Carbyne provided an NDA form and the SOC 2 report.
5.	Identify the backup PSAP. (Name and Address)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Glenview North Public Safety PSAP-1877 Old Deerfield Rd, Highland Park, IL 60035
6.	Indicate the PSAP Name(s) and Address(es) for your predetermined alternate route(s) or specify if none.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Glenview South Public Safety PSAP 2500 East Lake Avenue, Glenview, IL 60025, is the predetermined alternate route for Deerfield United PSAP.
7.	Explain how split exchanges will be managed.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	Split exchanges will be routed by the 9-1-1 provider, AT&T, One-button transfers will be programmed on the phone system for efficiency, in the event a call is routed incorrectly.
8.	Explain how the GIS database will be maintained and how boundary, address point, and street center line errors will be corrected and updated on a continuing basis.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	GIS data is submitted to the AT&T ESInet via a web-based spatial interface portal. The portal provides secure GIS file transfer. 9-1-1 Authorities can maintain their local database schema and configure database changes using attribute field mapping tools. The Spatial Interface validation engine logs errors and refers errors back to the originating 9-1-1 Authority in comprehensive reports that are retrieved in the 9-1-1 Enterprise Geospatial Database Management System.
9.	Indicate who will be responsible for updating and maintaining the data. Updates are required whenever there is a change to the	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	GIS Vendor "MGP" Maintains Deerfield JETSB GIS Database. They coordinate with Deerfield Police Department Communication Director and Village of Deerfield's IT department.

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<p>Road Centerline layer that includes a new or changed road name(s) or a database change, or annexation that modifies the Law, Fire, or EMS Boundary Layer, and whenever an updated version of the workflow tool is released.</p>		
<p>Narrative Statement – Cloud-Based 9-1-1 Call Handling Equipment</p>		
<p>1. General System Requirements</p> <ul style="list-style-type: none"> •Is the cloud-based 911 Call Handling solution NG911-compliant and aligned with NENA i3 standards? •Is the vendor/system authorized to connect to the state or regional ESInet? •Does the redundant cloud hosting environment utilize geographically diverse data centers? Provide specific details. • Is the system architecture scalable to accommodate fluctuating call volumes? • Are 24/7 monitoring and technical support services available? 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Is the cloud-based 911 Call Handling solution NG911-compliant and aligned with NENA i3 standards?</p> <p>-Yes</p> <p>Is the vendor/system authorized to connect to the state or regional ESInet?</p> <p>-Yes</p> <p>Does the redundant cloud hosting environment utilize geographically diverse data centers? Provide specific details.</p> <p>- The Carbyne solution will replace this architecture with two Points of Interconnect {POIs) in place of the physical, on-premise routers. These POIs are located in geographically diverse locations, in data centers located in Dallas, TX and Ashburn, VA. These POIs then connect to Carbyne's cloud infrastructure in the AWS GOV Cloud, East and West.</p> <p>Is the system architecture scalable to accommodate fluctuating call volumes?</p> <p>-Yes -The system architecture scalable to accommodate fluctuating call volumes.</p> <p>Are 24/7 monitoring and technical support services available?</p> <p>There is 24/7 monitoring and technical support services available through Carbyne's 1-800 number.</p>

<p>2.</p>	<p style="text-align: center;">Connectivity & Network Readiness</p> <ul style="list-style-type: none"> • Are there secure and redundant connection paths to the ESInet? Provide detailed specifications. • Is Network-to-Network Interface (NNI) configuration supported? • Does the system utilize IP-based SIP trunking with TLS and SRTP encryption protocols? • Are Public Safety Grade Service Level Agreements (SLAs) in place? Attach SLAs. • Have all relevant IP addresses and DNS details been provided to the ESInet provider (AT&T, Aurelian (Comtech), or INdigital)? 	<p style="text-align: center;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Are there secure and redundant connection paths to the ESInet? Provide detailed specifications.</p> <p>a. Yes. Carbyne has proposed a Private carrier grade Ethernet Circuit between its cloud instances in AWS GovCloud (US), and the PSAP with an automatic failover path to AT&T Firstnet, using tertiary Deerfield's Dedicated Internet Access circuits. The failover routes utilized Virtual Private Network connections, and all connections are encrypted end-to-end (during transit and at rest) with AES-256.</p> <p>Is Network-to-Network Interface (NNI) configuration supported?</p> <p>a. Yes. Carbyne has established Network-to-Network interfaces with all major NGCS providers at either its Points of Interconnection (POI) located in Dallas, Texas and Ashburn, VA, or directly via cloud-to-cloud interfaces.</p> <p>Does the system utilize IP-based SIP trunking with TLS and SRTP encryption protocols?</p> <p>a. Yes.</p> <p>Are Public Safety Grade Service Level Agreements (SLAs) in place? Attach SLAs.</p> <p>a. Yes. SLA's attached. Section 5.2, page 15.</p> <p>Have all relevant IP addresses and DNS details been provided to the ESInet provider (AT&T, Aurelian (Comtech), or Indigital)?</p> <p>a. Site configuration is conducted during the project phase, but Carbyne has existing relationships with all major NGCS providers as well as deployment processes and operational readiness test flows.</p>
<p>3.</p>	<p style="text-align: center;">Call Handling Capabilities</p> <ul style="list-style-type: none"> • Can the cloud-based Call Handling Equipment (CHE) receive SIP-based 911 calls 	<p style="text-align: center;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Can the cloud-based Call Handling Equipment (CHE) receive SIP-based 911 calls with complete PIDF-LO location information?</p> <p>a. Yes</p>

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	<p>with complete PIDF-LO location information?</p> <ul style="list-style-type: none"> • Is Real-Time Text (RTT) supported? • Does the system provide TTY compatibility? • Are transfer capabilities to and from adjacent PSAPs over the ESInet supported, including full metadata preservation? • Are features such as call queuing, priority routing, and selective routing implemented? 		<p>Is Real-Time Text (RTT) supported?</p> <p>a. Yes. RTT is ready to be deployed when the customer is ready.</p> <p>Does the system provide TTY compatibility?</p> <p>a. Yes. APEX provides full access to TDD/TTY functionality</p> <p>Are transfer capabilities to and from adjacent PSAPs over the ESInet supported, including full metadata preservation?</p> <p>a. Yes.</p> <p>Are features such as call queuing, priority routing, and selective routing implemented?</p> <p>a. Yes. These options are configured during the configuration phase.</p>
4.	<p>Location & Data Handling</p> <ul style="list-style-type: none"> • Is the system integrated with a Location Information Server (LIS)? • Can location data be displayed and acted upon in real time? • Are logs and records of ALI, PIDF-LO, and routing decisions stored securely and in compliance with applicable standards? • Does the CHE support NG911 multimedia data types such as video, images, telematics, and sensor data? 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Is the system integrated with a Location Information Server (LIS)?</p> <p>a. Yes.</p> <p>Can location data be displayed and acted upon in real time?</p> <p>a. Yes. APEX provides updates on location to the end-user as soon as they are received from the NGCS provider.</p> <p>Are logs and records of ALI, PIDF-LO, and routing decisions stored securely and in compliance with applicable standards?</p> <p>a. Yes. Carbyne sets record retention policies based on customer statutes. All data is housed encrypted with AES-256, and stored in AWS GovCloud (US)</p> <p>Does the CHE support NG911 multimedia data types such as video, images, telematics, and sensor data?</p> <p>a. Yes. Carbyne supports multimedia data as native functionality.</p>

5.	<p>Interoperability Testing</p> <ul style="list-style-type: none"> • Has the cloud provider successfully completed test scenarios with the ESInet provider? • Has end-to-end call flow-covering call origination, routing, handling, and transfer-been validated? • Has the accurate receipt and preservation of SIP headers and metadata been confirmed? Provide test results and outcomes. 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Will be provided during ORT.</p>
6.	<p>Security & Compliance</p> <ul style="list-style-type: none"> • Is the system compliant with CJIS security requirements and SOC 2 Type II certified? • Does the system support end-to-end encryption for both voice and data using TLS 1.2 or higher? • Are role-based access controls and system audit logs implemented? • Is a cybersecurity incident response plan in place? Attach the plan. 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Is the system compliant with CJIS security requirements and SOC 2 Type II certified?</p> <p>a. Carbyne is SOC 2 Type II certified and independent, 3rd party auditors review our compliance. While Carbyne APEX does not store or process CJIS data, the facilities and our security practices exceed the requirements for CJIS requirements.</p> <p>Does the system support end-to-end encryption for both voice and data using TLS 1.2 or higher?</p> <p>a. Yes. Carbyne uses TLS 1.3 where available and falls back to 1.2 where required.</p> <p>Are role-based access controls and system audit logs implemented?</p> <p>a. Yes. Carbyne uses a Zero Trust Architecture, or Perimeter Security and fully logs all user activity.</p> <p>Is a cybersecurity incident response plan in place? Attach the plan.</p>

			<p>a. For security reasons, Carbyne redacts certain sensitive information for operational security. We are happy to provide the full, unredacted report with the execution of an NDA.</p>
<p>7.</p>	<p>Training & Documentation</p> <ul style="list-style-type: none"> • Provide a training plan for telecommunicators and IT staff. • Provide detailed documentation covering call flow, failover mechanisms, recovery processes, and maintenance schedules. • Include Tier 1 and Tier 2 support contact information. • Include escalation procedures and confirm they have been shared with the ESInet provider. 	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>Provide a training plan for telecommunicators and IT staff.</p> <p>The initial training will be conducted using Carbyne's self-led on-line learning platform. This training will lead users through orientation of the APEX user interface and navigate through each feature within the platform. Additionally, administrative staff will receive training in the use of Control Center and Events History. The on-line training will be available to users for two full weeks in order to allow for each user to complete it. Following the two-week on-line training, a Carbyne Customer Success Manager will report on site to complete a skills sign-off with each user. This will be completed in groups of up to 10 users, according to staffing needs, in 2-hour sessions. This will take place on the APEX training stations. The skills sign-off will be completed over the course of 3 consecutive days. a. User Training Plan attached. The cloud-native architecture does not require any specialized training for maintenance personnel other than basic network and PC skills.</p> <p>Include Tier 1 and Tier 2 support contact information.</p> <p>a. Tier 1 and Tier 2 support contact information can be found in the attached Support SLA document for question 4.</p> <p>Include escalation procedures and confirm they have been shared with the ESInet provider.</p> <p>a. Escalation procedures can be found in the Support SLA document attached for question 4. Carbyne has rigorous support procedures with the NGCS providers and have established e-bonding between vendors to ensure seamless ticketing creation and data exchange during incidents and support issues.</p>

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8.	<p align="center">Go-Live Preparation</p> <ul style="list-style-type: none"> • Have test calls been scheduled and coordinated with the ESInet provider? Provide testing schedule. • Has a cutover plan been developed and shared? Attach the plan. • Is a backup call routing plan confirmed? Attach the plan. • Provide a contingency plan for system failure or degraded performance. 	<p align="center">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>	<p>The project will be implemented starting mid November 2025, with a Go-Live date of May,2026.</p>
Financial Information			
	Annual recurring 9-1-1 network costs prior to modification	<p align="center">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p align="center">\$ 19,032.00</p>
	Projected annual recurring 9-1-1 network costs after modification	<p align="center">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p align="center">\$ 19,032.00</p>
	Installation cost of the project	<p align="center">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p align="center">\$ 351,706.00</p>
	Additional recurring costs as a result of the modification – Provide Explanation Below	<p align="center">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p align="center">\$ 25,000.00</p>
	<p>Summary of anticipated implementation costs and annual operating costs of the modified 9-1-1 system that are directly associated with 9-1-1 as well as the anticipated revenues. Include the email request and Administrator’s approval that support your network costs.</p>		<p>Implementation costs are related to the one-time purchase of equipment such as 911 call handling equipment expansion, computers, and services to install equipment needed to support the dispatch operations for Deerfield, Bannockburn, Riverwoods and Lincolnshire Police Departments.</p> <p>Additional Recurring Costs as a Result of the Modification: Computer Software licenses, ongoing maintenance costs, additional monitors, ESInet circuits, Cell circuit for backup, etc. This is an estimated cost at this time due to CARBYNE cloud-based call taking software being implemented.</p>

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Communities Served	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Participating Agencies	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Adjacent 911 Authorities	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Originating Service Providers (OSP)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Test Plan	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	The test plan utilized will be substantially similar to the testing done when Deerfield United went to the ESINet. Wireless and Wireline test calls will be made: Deerfield Transfer Calls to neighboring PSAPS. Rollover to Glenview Public Safety North. A more detailed testing plan was included in an attachment.
Zip Codes	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Attachments	If applicable	
Back-Up PSAP agreement	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Call Handling Agreements	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Contracts	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Network Diagram	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Conclusions:

With this modification, Deerfield United JETSB is requesting to modify its 9-1-1 system by replacing their current on-premise call handling solution with the Carbyne APEX, cloud based, call handling solution. Deerfield United JETSB is also requesting that the Riverwoods Police Department join the Deerfield United JETSB after leaving the disbanded Lake County ETSB. The ISP has completed its review of the modified plan and has determined that it meets the requirements for a modified plan filing under 83 Ill. Admin. Code Part 1325.205.

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ISP Reviewed by: Catherine Tanner
Date: 02/13/2026
ICC Reviewed by: George Light
Date: 02/17/2026