

Clean Air Status and Trends Network Third Party Audits: Coordinating with Monitoring Organizations

To perform an audit at a CASTNET site each auditing agency must follow these steps:

- 1) **Determine the operating agency** by accessing the CASTNET site information page here:
<https://www.epa.gov/castnet/castnet-site-locations>. Select the site and find the Operating Agency under Site Information.

- 2) **Email your request 4 weeks ahead of a proposed audit to the appropriate EPA, NPS, or BLM contact:**

Position	Name	Agency*	Phone	Email
EPA Technical Monitor (TM)	Timothy Sharac	EPA, CAPD	202-243-9180	sharac.timothy@epa.gov
NPS Program Manager (PM)	Barkley Sive	NPS, ARD	303-987-6947	barkley_sive@nps.gov
BLM Program Manager (PM)	Richard Jacoby	BLM, WY	307-775-6156	rjacoby@blm.gov
Contractor Point of Contact (CPOC)	Marcus Stewart	WSP	352-757-3238	marcus.stewart@wsp.com
Contractor Point of Contact (CPOC)	Mark Tigges	ARS	970-484-7941	mtigges@air-resource.com

*EPA, CAPD = Environmental Protection Agency, Clean Air and Power Division
NPS, ARD = National Park Service, Air Resources Division
BLM, WY = Bureau of Land Management, Wyoming
WSP = WSP Environment & Infrastructure Inc.
ARS = Air Resource Specialists, Inc.

- 3) **Include the following information in your request to the TM/PM:**

Third Party Auditor Provides	Contractor Point of Contact Provides
Agency and auditor information	Site access information
Site(s) to be audited	Site operator contact information
Audit type and parameters of interest	Site visitor protocols (includes signing in and out of the monitoring facility)
Request for site operator presence during audit	Schedule to accommodate all parties
Proposed audit schedule - keep in mind that a site operator is at the site for approximately 45 minutes every Tuesday morning, special requests can permit other times with advance notice.	Site technical support as needed regarding the audit (to facilitate audit performance and returning the site to normal operating condition)
Audit results upon completion	

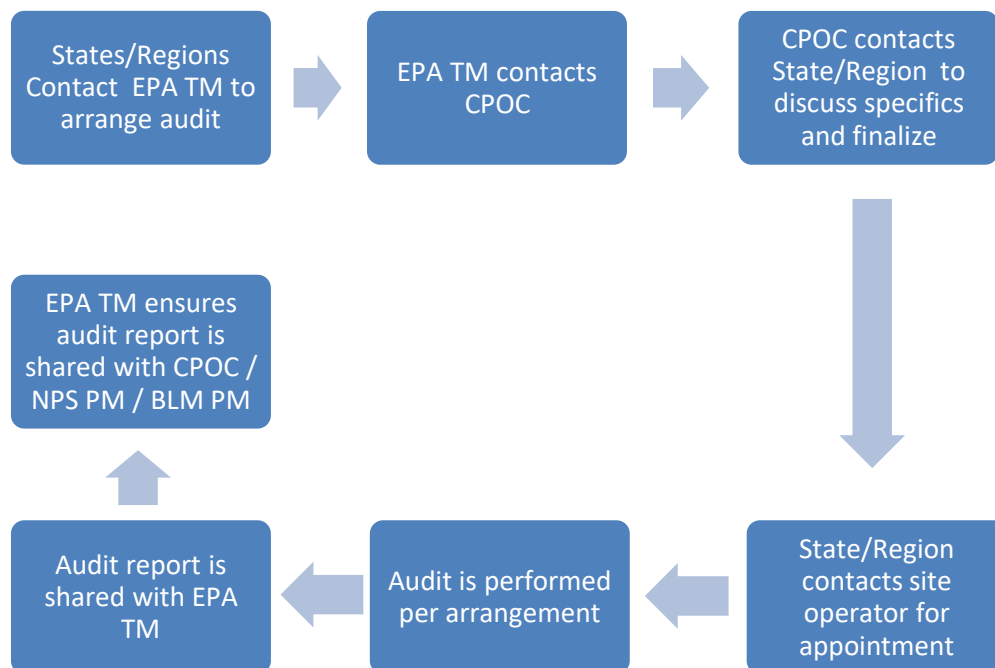
- a. **About scheduling the audit:** Provide a date range of when you plan on auditing the site, keep in mind that CASTNET ozone monitors are remotely operated, and a site operator is typically at the site for approximately 45 minutes every Tuesday. In most cases, special trips by the site operator can be made to allow for the audit if the site operator has two weeks' advanced notice.

- b. **Audit follow-up:** Submit the audit results to TM and the CPOC within 30 days.

Essential Coordination

Third party audits are an important mechanism for EPA regions or state and local agencies to assess the performance of project monitoring – particularly ozone and ozone precursors analyzers. The three components of data security – access, confidentiality, and integrity are critical to CASTNET operations. To ensure the success of the monitoring program while allowing for third party audits, it is obligatory for third party auditors to follow the steps laid out in this document (Figure 1). CASTNET shelters and equipment are typically owned by the operating agency and maintained by WSP or ARS. The land may be owned by the site operator, an institution, or government agency. Unauthorized entry into a CASTNET shelter without prior coordination may pose both data security and/or liability risks to the monitoring program and respective company. Access to CASTNET sites and equipment will be arranged upon request as detailed in Figure 1. The EPA Technical Monitor (TM) is the primary point of contact for all third party audits of CASTNET sites.

Figure 1. Third Party Audit Procedure



Attachment: Operations at Remote CASTNET Sites

Site Description

CASTNET's primary goal is to operate effectively as a national, long-term ambient air pollutant and deposition monitoring network that provides information for assessing the effectiveness of current and future emission reductions. CASTNET's primary objectives are:

- To monitor the status and trends in air quality and atmospheric deposition;
- To provide atmospheric data on the dry deposition component of total acid deposition, rural ground-level ozone, and other forms of atmospheric pollution that enter the environment as particles and gases;
- To gauge compliance with ozone National Ambient Air Quality Standards;
- To assess and report on geographic patterns and long-term, temporal trends in ambient air pollutant concentrations and acid deposition;
- To provide scientifically defensible data to gauge the effectiveness of EPA emission reduction programs;
- To improve understanding of particulate matter and ozone formation;
- To evaluate and improve atmospheric air quality/deposition models;
- To provide data for health-based research and epidemiology studies; and
- To support science and ecosystem studies.

The CASTNET design requires sites to be located in rural or remote locations away from pollutant emission sources and heavily populated areas. Sites are therefore located in areas that range from university research stations to national parks and nature preserves to privately owned land. Accordingly, site operators are a diverse mix of university students, park rangers, private landowners, etc. The network is designed for automated operation and remote management with onsite visits for physical sample collection and routine service once per week each Tuesday. The procedures required for these site visits is the main focus for CASTNET site operators. The site operators work closely with the remote station managers to monitor conditions onsite and resolve technical issues that may occur.

Coordinating a Site Visit

The procedure depicted in Figure 1 should be followed when arranging a site visit. A site operator may have to take time off from work or drive a significant distance to meet an auditor. The lead time described in the associated text is necessary to give site operators sufficient time to make arrangements to meet a visitor onsite.

Conducting a Site Visit

CASTNET sites are secured. The site operator will provide access on the day of the audit. Upon arrival, please sign into the station's narrative log with name, organization, and purpose of visit. The site operator will be responsible for lowering/raising the sampling tower, downing/upping data logger channels, and ensuring operational integrity and security of the station after audit completion.

The site operator will also be responsible for recognizing analyzer stability and calling the final concentrations for audit challenge points with few exceptions. Occasionally, the remote station managers will be required for establishing stability and final concentrations due to site operators with limited availability or technical expertise in determining stability from instrument traces. These exceptions will be identified ahead of the audit, associated arrangements will be made (e.g. contact numbers), and all parties notified.

Upon audit completion, please provide the preliminary audit data to the EPA Technical Monitor.

Nafion Driers

Approximately 30 EPA-sponsored CASTNET sites utilize Nafion driers to minimize moisture-related performance issues. When performing an audit on the ozone analyzer, the drier's sample pump should remain on and the challenge gas should pass through the entire sample train. For additional information on the Nafion drier approval and performance testing, please see https://www.epa.gov/sites/default/files/2021-03/documents/nafion_dryer_memo-pdf.pdf