

**ISCS RA-IV NOAAnet
Interface Control Document
(ICD)**

- DRAFT -

October 15, 2009

Revision 0.1

**National Weather Service
National Oceanic and Atmospheric Administration**

Record of Change Page

Revision:									
Released by:									
Release Date:									
Effectivity:									
Authority:									
Preface									
Section 1 - 5									
Annex 1									
Annex 2									
Annex 3									
Annex 4									
Annex 5									
Annex 6									

Document owner and change control authority:

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ISCS RA-IV NOAAnet Interface Control Document (ICD)

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ISCS RA-IV NOAAnet Interface Control Document (ICD)

1. **Purpose:** This document describes the NOAAnet user interface and the associated responsibilities for the operation and maintenance of the interface.

2. **Background:** The term NOAAnet describes the National Oceanic and Atmospheric Administration's (NOAA's) National Weather Service (NWS) Enterprise Transport Network employed to support data transport and communication services. NOAAnet is operated by the NWS Office of the Chief Information Officer (CIO) as an integral part of the NWS Information Technology (IT) Enterprise, and is implemented at the sites identified in Annex 2. NOAAnet provides Regional Meteorological Telecommunications Network (RMTN) services, for the transmission of hydro-meteorological data products from World Meteorological Organization (WMO) Regional Association-IV (RA-IV) and some RA-III Member States, to the Regional Telecommunications Hub (RTH) in Washington, DC. The complimentary service for the dissemination of hydro-meteorological data products from the RTH to the RA-IV member states is currently accomplished by the International Satellite Communication System (ISCS) satellite broadcast service. Reception of the broadcast requires the use of ISCS satellite receiving equipment (which is not part of this ICD).
 - a. NOAAnet connections in the RMTN are provided as contracted services managed by the NWS CIO in compliance with US Federal Information Security Management Act (FISMA) IT Security requirements for systems and data, and implements the necessary controls to assure the confidentiality, integrity, and availability of the data transport function between the RMTN and the RTH. Further details on the IT Security aspects of these transport services are found in the "NOAAnet User Connection Agreement" (NUCA).
 - b. NOAAnet was deployed October-December 2009, to all connected RMTN countries operating NWS-registered ISCS Generation 2 (ISCS-G2) two-way (transmit/receive) satellite equipment. Installation of NOAAnet was the first of two steps in conducting a technology refresh of the ISCS two-way satellite ground equipment in that it was designed to replace the satellite channel providing data transport from the RMTN participants back to the RTH. The satellite equipment technology refresh which followed then transitioned the ISCS-G2 transmit/receive satellite equipment to receive-only equipment, resulting in a mixed satellite/terrestrial communications system known as the ISCS Generation 2 extended (ISCS-G2e).
 - c. NOAAnet is configured for data transport from RMTN Member States to the RTH, with the capability to be reconfigured to allow other direct connections and two way communications for future system capabilities growth.
 - d. The initial acquisition of NOAAnet interface equipment, installation of NOAAnet circuits and services, and payment of recurring cost of the telecommunication services were coordinated by the US Government to accomplish the technology refresh of the ISCS-G2 equipment. In accepting the NOAAnet equipment and services, the Member States agree to operate and

maintain NOAAnet services and equipment as provided in this document. Failure to do so may result in the termination of NOAAnet services.

e. The ISCS-G2e NOAAnet service/circuits exist to extend the Global Telecommunication Services (GTS) to participating RA-IV Member States.

3. **NOAAnet Operational Interface.** The NOAAnet operational interface is comprised of: (1) telecommunications circuit physically connecting a specific Member State facility into the NOAAnet MPLS network; (2) NOAAnet circuit interface installed at a specified location in the Member States facility; and (3) NOAAnet compliant router connected to the NOAAnet circuit interface

a. The NOAAnet telecommunication circuit and circuit interface are installed as a contractor provided service managed by the NWS. The NWS NOAAnet contractor will contact and work with the Member State's Site Point of Contact (Annex 1, "NOAAnet Points of Contact (POCs)) and the local telecommunications service provider, referred to as the Post, Telephone and Telegraph (PTT) service provider, or simply PTT, for installation and activation of the circuit at the Member State specified location.

b. Requests for the installation of a new ISCS-G2e NOAAnet service/circuit, or the modification of an existing ISCS-G2e NOAAnet service/circuit will be made to the NWS ISCS Program Office by completing and submitting the information contained in Annex 6, "ISCS-G2e NOAAnet Circuit Service Request". Member States are responsible to pay all associated one-time and recurring costs for new or modified services. The NWS ISCS Program Office will receive the request for the ISCS-G2e NOAAnet service/circuit, ensure all required information is present on the form, seek proper validation of the requirement, and forward the request to the NWS NOAAnet Program Office. Installation of new services may take up to 60 days or more for completion following submission of the request. The request will generate a service availability and cost estimate (to install or modify NOAAnet services) which will be returned to the requesting Member State. The Member State will then need to respond to the ISCS Program Office with approval to proceed, and verifiable payment information.

c. The NOAAnet physical circuit interface may vary from country to country, based on the local PTT's adopted standards, and will impact the choice of equipment to be installed and cost of service. The local physical circuit interface standard is obtained through the local PTT, and documented on the list of installed sites in Annex 2.

d. The NOAAnet Router is a critical component for entry into the NOAAnet telecommunications network. Specific router brands and models must be used, and must be properly configured to successfully operate. If a situation arises in which a NOAAnet router must be replaced, Member States should contact the NOAAnet Network Operations Center (NOC) for specific information and instructions at the following:

Email: NOAAnet.support@noaa.gov
Phone: 1-888-NOAAnet (1-888-662-2638)

e. NOAAnet router configuration setting and firmware updates will be performed by the NOAAnet NOC. After the router is configured for NOAAnet operations, the Member State will not have administrative privileges to modify the router firmware or settings. All settings, firmware patches and updates will be maintained remotely by the NOAAnet NOC, using the NOAAnet circuit. Verification that the router has been properly configured and is operating as intended can be obtained by contacting the NOAAnet NOC. NOAAnet is configured to transport data according to the conventions documented in Annex 3, Site Communication Table.

f. Any attempt to operate unauthorized devices over the NOAAnet circuit, or to use NOAAnet for purposes other than transferring approved hydro-meteorological data products, containing appropriate information in the approved format, may lead to the immediate termination of the NOAAnet services. If this should occur, the RMTN site point of contact and ISCS Program Office will be notified of the service termination, and the reason for terminating the circuit. In the event of repeated or persistent unauthorized use or abuse of the NOAAnet equipment, circuits or network, the NWS may unilaterally terminate the connection indefinitely.

4. **Site Equipment Configuration.** The NOAAnet router may be installed in one of two general configurations: (1) Stand Alone (SA) - dedicated connection to the operational workstation or personal computer; or (2) Local Area Network (LAN) – connected to an operational workstation or computer as part of the site LAN. These configurations are depicted and further explained in Annex 4.

5. **Data Product Management.**

a. The data products authorized for transport over NOAAnet is documented in the NOAAnet data product baseline. The baseline of products is established and maintained by [*identify appropriate RA-IV committee*] of the RA-IV, in consultation with the RTH and ISCS Program Manager. Further information is available at:

<*identify appropriate contact information - URL, office, or representatives*>

b. The ISCS Program Manager is the authorizing official for coordinating and authorizing changes at the RTH that impact the NOAAnet transport services. The ISCS Program manager will establish and maintain a data product change management process to formally document potential changes to the NOAAnet data products baseline, and make all proposed, approved, and disapproved changes to the NOAAnet transport services available to the RA-IV community. The ISCS Program manager will ensure adequate resources are available, and system performance and IT Security are not adversely impacted before implementing any changes to the NOAAnet transport services. The ISCS Program Manager will participate in RA-IV meeting and sessions that are relevant to the NOAAnet data transport services.

6. **NOAAnet Backup Communication Service.**

a. If for any reason NOAAnet services fail, RMTN participants may continue to submit data products to the RTH using the prescribed NWSTG e-mail delivery service. The NWSTG e-mail delivery service must be activated prior to the submission of data products. Annex 2 identifies

sites which are registered with the RTH for the NWSTG e-mail delivery service. Products received at the RTH by email will be placed on the NWSTG FTP server. Further information on this method of communication is available from the ISCS Program Office by contacting:

Patrick Gillis, ISCS Program Lead
Email: patrick.gillis@noaa.gov

b. Member States are encouraged to routinely exercise the RTH e-mail service in the submission of hydro-meteorological products to the RTH, to gain proficiency in NOAAnet backup/alternative communication procedures.

7. **NOAAnet Technical Support.** The NOAAnet NOC should be notified in the event of a NOAAnet service failure. Sites should contact the NOAAnet NOC immediately either by Email or telephone:

Email: NOAAnet.support@noaa.gov
Phone: 1-888-NOAAnet (1-888-662-2638)

The NOAAnet NOC is available by telephone 24 hours-a-day for technical information, or assistance, in addressing NOAAnet operational issues or concerns. Less urgent matters may be submitted to the NOAAnet NOC by Email. The NOC will normally respond to Email on the next business day.

Annex 1 – NOAAnet Points of Contact (POCs)

1. Site - Primary and Alternate POCs:

- Antigua & Barbuda –
 - Keithley Meade (keithleym@yahoo.com)
 - Donald Simon (don.acs@yahoo.com)
- Bahamas –
 - Arthur Rolle (rollearthur@gmail.com)
 - Jeffrey Simmons (jeffreysimmons@gmail.com)
- Barbados –
 - Chester Layne (dirmet@sunbeach.nett)
 - Hampden Lovell (meteorology@sunbeach.net)
- Belize –
 - Ramon Frutos (rfrutos01@yahoo.com)
 - Dennis Gonguez (dgonguez@hydromet.gov.bz)
- Cayman Islands –
 - Fred Sambula (fred.sambula@caymanairports.com)
 - John Tibbets (john.tibbets@gov.ky)
- Colombia –
 - Oscar Bermudez Gracia (oscar.bermudez@aerocivil.gov.co)
 - Francisco Hidalgo (fhidalgo@ideam.gov.co)
- Costa Rica –
 - Juan Carlos Fallas (jcfallas@imn.ac.cr)
 - Werner Stolz (wstolz@imn.ac.cr)
- Cuba –
 - Thomas Gutierrez (tomasg@met.inf.cu)
 - Hilario Torres Amador (Hilario@met.inf.cu)
- Curacao –
 - Albert Martis (amartis@meteo.an)
 - Haime Pieter (hpfdpiet@meteo.an)
- Dominican Republic –
 - Gloria Ceballos (gloriamcg_7@hotmail.com)
 - Yhony Gomez (yogome2005@yahoo.com)
- Ecuador –
 - Gustavo García Dávila (ggarciad@inamhi.gov.ec)
 - Anibal Rovalino (rovalino@inamhi.gov.ec)
- El Salvador –
 - Danilo Ramirez (danilo.ramirez@cepa.gob.sv)
- Guadeloupe –
 - Stephane Jamoneau (stephane.jamoneau@meteo.fr)
- Guiana –
 - Stephane Jamoneau (stephane.jamoneau@meteo.fr)
- Martinique –
 - Stephane Jamoneau (stephane.jamoneau@meteo.fr)

- Grenada –
 - John Peters (jpeters@psiagrenada.com)
 - Allan Simon (asimon@psiagrenada.com)
- Guatemala –
 - Eddy H. Sanchez (indireccion@insivumeh.gob.gt)
 - Cesar A. George (gerolc2002@yahoo.com)
- Guyana –
 - Sharon Hermanstein – Williams (s.h.williams@hydromet.gov.gy)
 - Garvin Cummings (gavincummings@yahoo.com)
- Haiti –
 - Ronald Semelfort (cnmhaiti@yahoo.fr)
 - Marcelin Esterlin (cnmhaiti@yahoo.fr)
- Honduras –
 - Efren Reyes (efrenmeteorolo@yahoo.com)
 - German J. Gomez (jago02@smn.gob.hn)
- Jamaica –
 - Evan Thompson (metservice.wbh@jamweb.net)
 - Georgia Forbes (metja.nmc@infochan.com)
- Mexico –
 - Raul Larios Malanche (rlarios@mailsmn.gsmn.cna.gob.mx)
 - Concepcion Franco (cfranco@mailsmn.gsmn.cna.gob.mx)
- Nicaragua –
 - Javier Mejia (ineterds@ibw.com.ni)
 - Milagros Castro (metsinop@ibw.com.ni)
- Panama –
 - Xenia Gabriela Guardia (xguardia@aeronautica.gob.pa)
 - Otto Issacs (metprovi@etesa.com.pa)
- Puerto Rico –
 - Israel Matos (israel.matos@noaa.gov)
 - Rafael Mojica (rafael.mojica@noaa.gov)
- Saint Lucia –
 - Herbert Regis (director@slumet.gov.lc)
 - Thomas Auguste (tomauguste@yahoo.com)
- Sint Maarten –
 - Ashford F. James (james@meteo.an)
 - Rignald Eugenio (eugenio@meteo.an)
- Trinidad & Tabago –
 - Bryan Thomas (synop@tstt.net.tt)
 - Glendell De Souza (synop@tstt.net.tt)
- NWS – National Hurricane Center
 - Bill Read (Bill.Read@noaa.gov)
 - Salim Leyva (Salim.Leyva@noaa.gov)
- NWS – Headquarters
 - Robert Gillespie (robert.gillespie@noaa.gov)
 - Patrick Gillis (patrick.gillis@noaa.gov)

2. **ISCS Program Office POCs:**

- ISCS Program Manager – Robert Gillespie (robert.gillepsie@noaa.gov)
- ISCS Program Lead – Patrick Gillis (patrick.gillis@noaa.gov)

3. **NOAAnet Technical Support:**

- Email: NOAAnet.support@noaa.gov
- Phone: 1-888-NOAAnet (1-888-662-2638)

4. **NWS/International Activities POCs:**

- Jennifer Lewis (jennifer.lewis@noaa.gov)
- Caroline Corvington (caroline.corvington@noaa.gov)

5. **WorkStation Vendor Contact Information:**

a. Global Science & Technology

- Email: Eugene Shaffer (eugene.shaffer@gst.com)
- Telephone: 1-240-542-1129

b. Morcom/Corobor

- Email: Manuel A. Ojeda (mojeda@morcom.com)
- Telephone: 1-703-263-9305

c. Meteo-France (Synergy)

- Email: Stephane Jamoneau (stephane.jamoneau@meteo.fr)
- Telephone: +596-596-63-99-47

d. Info-Electronic Systems

- Email: contact@info-electronics.com
- Telephone: 1-514-421-0767

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Annex 2 – Local NOAAnet Configuration

	Site:	Activation /Acceptance Date	Power (120/220V)/ Interface (V.35/G.703)	Stand Alone or LAN	Router Mfg/Model/ Serial#	OOB Modem Available (Y/N)	NWSTG Email Registered (Y/N)	Servicing PTT/Ref. No./Phone No.	LEC ID/Private Line
1	Antigua & Barbuda		120V AC/						
2	Bahamas		120V AC/						
3	Barbados		110V AC/						
4	Belize		120V AC/						
5	Cayman Islands		120V AC/						
6	Colombia		120V AC/						
7	Costa Rica		120V AC/						
8	Cuba		120V AC/						
9	Curacao		120V AC/						
10	Dominican Republic		120V AC/						
11	Ecuador		120V AC/						
12	El Salvador		120V AC/						
13	Guadeloupe		120V AC/						
14	Guiana		120V AC/						
15	Martinique		120V AC/						

	Site:	Activation /Acceptance Date	Power (120/220V)/ Interface (V.35/G.703)	Stand Alone or LAN	Router Mfg/Model/ Serial#	OOB Modem Available (Y/N)	NWSTG Email Registered (Y/N)	Servicing PTT/Ref. No./Phone No.	LEC ID/Private Line
16	Grenada		240V AC/						
17	Guatemala		120V AC/						
18	Guyana		120V AC/						
19	Haiti		120V AC/						
20	Honduras		120V AC/						
21	Jamaica		120V AC/						
22	Mexico		120V AC/						
23	Nicaragua		120V AC/						
24	Panama		120V AC/						
25	Puerto Rico		120V AC/						
26	Saint Lucia		120V AC/						
27	Sint Maarten		120V AC/						
28	Trinidad & Tabago		120V AC/						
29	NWS-NHC Florida		120V AC/						
30	NWS-HQ MD		120V AC/						

Annex 3 – Site Communication Table

	To: From:	NWSTG/ BTG	Aviation Weather Center (AWC)	Martinique
1	Antigua & Barbuda	FTP		
2	Bahamas	FTP		
3	Barbados	FTP		
4	Belize	FTP		
5	Cayman Islands	FTP		
6	Colombia	FTP		
7	Costa Rica	FTP		
8	Cuba	FTP		
9	Curacao	FTP		
10	Dominican Republic	FTP		
11	Ecuador	FTP		
12	El Salvador	FTP		
13	Guadeloupe	FTP		
14	Guiana	FTP		
15	Martinique	FTP		
16	Grenada	FTP		
17	Guatemala	FTP		
18	Guyana	FTP		
19	Haiti	FTP		
20	Honduras	FTP		
21	Jamaica	FTP		
22	Mexico	FTP		
23	Nicaragua	FTP		
24	Panama	FTP		
25	Puerto Rico	FTP		
26	Saint Lucia	FTP		
27	Sint Maarten	FTP		
28	Trinidad & Tabago	FTP		
29	NWS–NHC, Florida	FTP		
30	NWS-HQ, Maryland	FTP		

Legend:

FTP – File Transfer Protocol

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Annex 4 – NOAAnet Equipment Configuration Alternatives

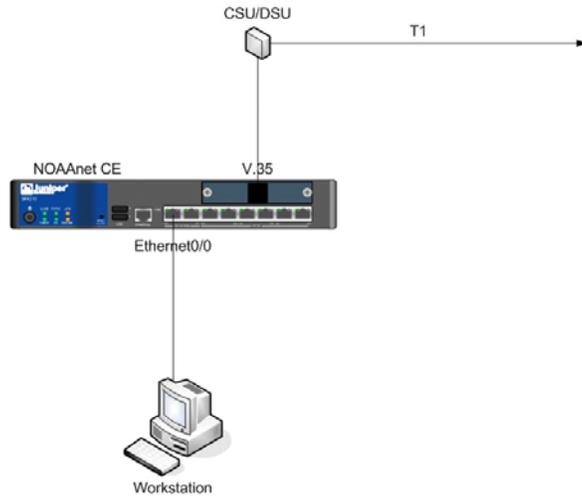
Stand Alone (SA) Implementation

[short description and router wiring diagram; notes or instructions as necessary]

Local Area Network (LAN) Implementation

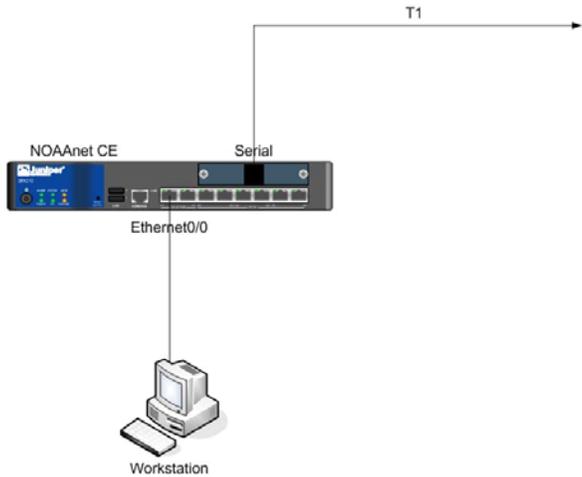
[short description and router wiring diagram; notes or instructions as necessary]

Stand-Alone Wiring Diagram (*Direct w/V.35*)



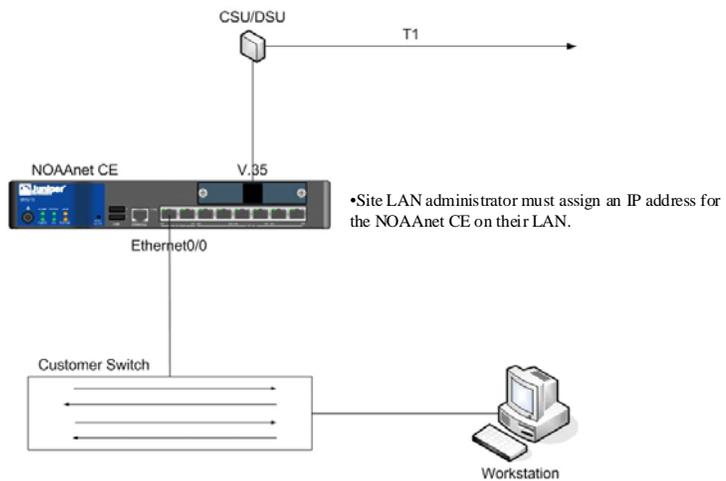
Drawing Title: NOAA/NWS PROPRIETARY, VERSION 001, NOAAnet – ISCS RMTN LAN Wiring Diagram (DIRECT w/V.35)	
originator: Keith R. Myers	reviser:
origination date: 10.13.2009	revision date:

Stand-Alone Wiring Diagram (*Direct w/RJ-45*)



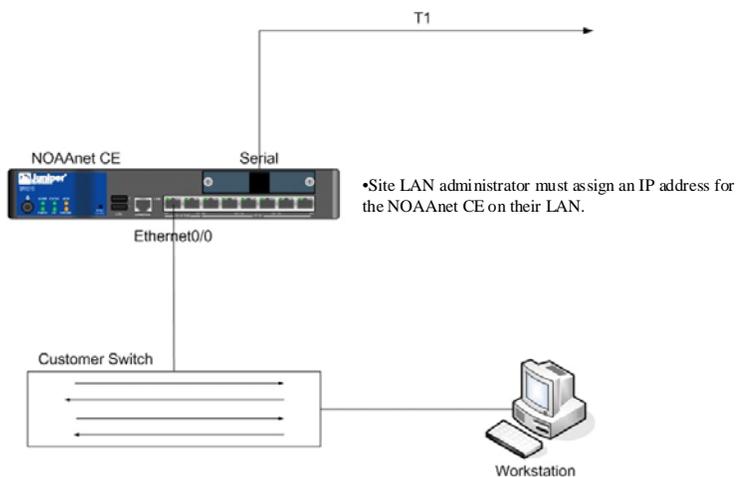
Drawing Title: NOAA/NWS PROPRIETARY, VERSION 001, NOAAnet – ISCS RMTN LAN Wiring Diagram (DIRECT w/RJ-45)	
originator: Keith R. Myers	reviser:
origination date: 10.13.2009	revision date:

LAN Wiring Diagram (LAN w/V.35)



Drawing Title:	NOAA/NWS PROPRIETARY, VERSION 001, NOAAnet – ISCS RMTN LAN Wiring Diagram (LAN w/V.35)		
originator:	Keith R. Myers	reviser:	
origination date:	10.13.2009	revision date:	

LAN Wiring Diagram (LAN w/RJ-45)



Drawing Title:	NOAA/NWS PROPRIETARY, VERSION 001, NOAAnet – ISCS RMTN LAN Wiring Diagram (LAN w/RJ-45)		
originator:	Keith R. Myers	reviser:	
origination date:	10.13.2009	revision date:	

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Annex 5 – Acronyms and Abbreviations

- CIO - Chief Information Officer
- Email - Electronic Mail
- FISMA - Federal Information Security Management Act
- FTP - File Transfer Protocol
- GTS - Global Telecommunications System
- HQ - Headquarters
- ICD - Interface Control Document
- ISCS - International Satellite Communications System
- ISCS-G2 - ISCS - Generation 2
- ISCS-G2e - ISCS – Generation 2 extended
- IT - Information Technology
- LAN - Local Area Network
- MPLS - Multiple Protocol Label Switching
- NHC - National Hurricane Center
- NOAA - National Oceanic and Atmospheric Administration
- NOAAnet - NOAA intra-network
- NOC - Network Operations Center
- NUCA - NOAAnet User Connection Agreement
- NWS - U.S. National Weather Service
- NWSTG - NWS Telecommunications Gateway
- POC - Point of Contact
- PTT - Post, Telephone and Telegraph
- RA-IV - WMO Regional Association IV
- RMTN - Regional Meteorological Telecommunications Network
- RTH - Regional Telecommunications Hub
- SA - Stand Alone
- WMO - World Meteorological Organization

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Annex 6 – ISCS-G2e NOAAnet Circuit Service Request

Send all requests for new NOAAnet circuits to the ISCS Program Manager:

Robert Gillespie
robert.gillespie@noaa.gov,

Include the following information:

- Site location (Country, City, Street Address)
- Site Telephone Number
- Site Point of Contact (POC)
- Site POC telephone number
- Site POC Email address
- Site Alternate POC
- Site Alternate POC telephone number
- Site Alternate POC Email address

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