

nationalgrid	ELECTRIC OPERATING PROCEDURE TRANSMISSION	Doc. # NG-EOP T012
	HELICOPTER UTILIZATION & NOTIFICATION	Page 1 of 22 Version 4.0 – 09/30/14

INTRODUCTION

This procedure applies to all helicopter activities conducted on behalf of National Grid, both company owned and contracted services. All personnel involved with helicopter activity shall adhere to this procedure and the training requirements.

PURPOSE

This procedure:

Provides the notification process used during the performance of helicopter activities
Creates a consistent environment for helicopter activities on the National Grid Electric System
Includes the training and communication requirements for all personnel involved in helicopter operation
Does not supersede any FAA Rules and Regulations

ACCOUNTABILITY

1. T & D Work Methods
 - A. Update procedures as necessary
2. Project Management & Complex Construction and Electric Operations
 - A. Ensure the components of the procedure are implemented.
 - B. Ensure that Transmission Engineering and Project Management & Complex Construction personnel, including external contractors, subcontractors, helicopter pilots and associated personnel are trained in this procedure.
 - C. Provide procedure revision input as necessary
3. Internal & External Aerial & Construction Personnel (Workers)
 - A. Demonstrate the understanding of the procedure.
 - B. Comply with the requirements of the procedure.
4. Procurement
 - A. Provide updates of this procedure to Contractors performing Helicopter based activities
 - B. Provide and maintain a list of active qualified helicopter vendors

COORDINATION

National Grid Project Management and Complex Construction
Transmission Control Centers
National Grid (US) Aviation Services Group

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REFERENCES

Helicopter Association International – Utilities Patrol & Construction Guide

[http://rotor.org/portals/1/safety/HAI UPAC Guide.pdf](http://rotor.org/portals/1/safety/HAI_UPAC_Guide.pdf)

OSHA Suspension Trauma Safety & Health Information Bulletin

www.osha.gov/dts/shib/shib032404.html

Federal Aviation Regulations & Airman's Information Manual

National Grid Employee Safety Handbook

DEFINITIONS

Aerial Construction: Refers to all aerial construction methods, whether energized or de-energized, hauling, lifting, stringing etc.

Aerial Crew: Crew associated with servicing the helicopter or directly working with the helicopter as part of the construction work

Aerial Crew Supervisor/Lead: Person in charge of the aerial crew

AIM: Aeronautical Information Manual

Construction Crew: Crew associated with ground work and/or structure prep work not dependent on helicopter

Construction Crew Supervisor/Lead: Person in charge of the construction crew

CRM (Crew Resource Management): A set of training procedures for use where human error can have devastating effects; primarily used for improving air safety; focused on interpersonal communication, leadership, and decision making in the cockpit

ELT: Electronic Locating Transmitter

FAA: Federal Aviation Authority

FAA Approved / RFM: Rotorcraft flight manual which pertains to specific rotorcraft make, model category and class of rotorcraft

FAR: Federal Aviation Regulations

HAI/UPAC Safety Guide: Safety guideline for helicopter patrols and construction techniques produced by the Utilities Patrol & Construction Committee of the Helicopter Association International

FITWE (Flying in the Wires Environment): Aviation safety training course including CRM, situational awareness and obstruction environment training

HASP: Health and Safety Plan

Helicopter Crew: Pilot(s) of the helicopter by definition per the FAA (other occupants of helicopters are passengers working as support for the specific mission)

ISO: Independent System Operator – New England (ISONE) or New York (ISONY)

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Job Brief: Detailed daily written documentation of planned work and procedures

Leap Frog: Multiple helicopters simultaneously working in a generalized work area which continually exchange positions in an outreaching progressive fashion

Long Line: Rope, cable or synthetic line meeting FAA requirements suspended beneath a helicopter for external transportation of cargo

LZ: Landing Zone

NOTAM: Notice to Air Men

NTSB: National Transportation Safety Board

OSHA: Occupational Safety & Health Administration

PHA (Process Hazard Analysis): Job specific, written process consisting of an organized and systematic assessment of the potential hazards associated with a construction process

PHA Works: Software used at National Grid to develop the PHA documentation

PIC: Pilot in Command - directly responsible for and the final authority for operation of the aircraft (see FAR 91.3)

Primary Contact: Person designated to control the work site and coordinate all work activities both on the ground and directly with the pilot in command. (See Aerial Crew and Construction Crew)

REMVEC: Rhode Island, Eastern Massachusetts, Vermont, Energy Council

ROW: Right of Way

SPOT: Satellite Personal Tracker - a brand name GPS web based locating device.

TCC: Transmission Control Center, NE or NY as applicable

TFR: Temporary Flight Restrictions

Three (3) Part Communication: An initial statement repeated back to the initiator and then confirmed

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TRAINING

Training provided or coordinated by L&D as requested:

NG-EOP T012 Training:

Provide National Grid Project Management & Complex Construction, Transmission Engineering, Electric Operations, Transmission Control Centers, and National Grid (US) Aviation Services Group with initial Training.

Provide National Grid Project Management and Complex Construction, Transmission Engineering, Transmission Control Centers, and National Grid (US) Aviation Services Group with additional training when requested.

FITWE:

All National Grid employees and contractors who fly in a helicopter must have taken FITWE training including Crew Resource Management training.

Proof of training is National Grid Flight ID badge (blue)

Personnel who have not received or are not current with FITWE training

Shall not fly in the helicopter

Except:

National Grid Executives

Government Officials

As approved by a National Grid executive

And are accompanied by a FITWE trained person

Trained person shall instruct untrained person on proper procedure and conduct

Untrained person shall not act as the primary observer in the front seat of helicopter

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1.0 PROCESS HAZARD ANALYSIS

- 1.1 A Process Hazard Analysis (PHA) shall be developed for helicopter based construction activities: In conjunction with:
 - 1.1.1 This EOP
 - 1.1.2 The National Grid Employee Safety Handbook
- 1.2 The Line of Business shall:
 - 1.2.1 Create the PHA for the specific type of construction work
 - 1.2.2 Have PHA approved by the Process Safety Committee
- 1.3 The PHA shall include:
 - 1.3.1 Associated aerial and ground support
 - 1.3.2 Provide a clear and consistent process for communications
- 1.4 The PHA shall:
 - 1.4.1 Be completed prior to the commencement of the work
 - 1.4.2 Be reviewed by the entire crew(s) on the day of the work
 - 1.4.3 Be noted on the daily job brief

Note: Contact National Grid Safety for assistance in PHA development as needed

2.0 MINIMUM REQUIREMENTS

- 2.1 All Helicopters used by National Grid or its contractors shall be furnished by National Grid approved helicopter contract holders which:
 - 2.1.1 Meet National Grid Aviation requirements including
 - a. Passing grade in ISN
 - b. Required insurance
 - c. Required training
 - d. Have an approved safety program in place
 - e. Comply with all National Grid Procurement procedures
 - 2.1.2 Or be owned and operated by National Grid
- 2.2 All National Grid employees or contractors who fly in a helicopter shall:
 - 2.2.1 Complete FITWE training through L&D
 - 2.2.2 Alternatively complete Flying in the Wires Environment (FITWE) training provided by others and approved by National Grid

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- 2.2.3 Provide proof of successful completion of FITWE training
- 2.2.4 Possession of National Grid Flight ID Badge
- 2.2.5 Complete re-certification training every two years
- 2.3 All Contract Pilots providing flight services for National Grid shall:
 - 2.3.1 Possess a National Grid Flight ID badge
 - 2.3.2 Meet the following minimum flight time experience
 - 2.3.3 2000 hours as Pilot in Command or Second in command of a rotor craft
 - 2.3.4 1000 hours in a turbine rotorcraft / helicopter
 - 2.3.5 100 hours in a helicopter of the make and model to be utilized at National Grid
 - 2.3.6 300 hours flight time in Wire Environments
- 2.4 Related procedures associated with this EOP:
 - 2.4.1 TCC operators have specific tasks for mandatory notifications by personnel performing Aerial activities on the National Grid System
 - 2.4.2 New England - OP-98A
 - 2.4.3 New York - Power Control Policies & Procedures 12.4 NY

Note: Access to these procedures may be limited by regulatory requirements. Contact the appropriate TCC for copies.

3.0 NOTIFICATION PROCEDURES

- 3.1 All Helicopter activity on the National Grid Electric System shall:
 - 3.1.1 Be reported to the appropriate TCC
 - 3.1.2 Daily
 - a. Each day on a different form
 - 3.1.3 A minimum of the day prior to the planned flight
 - 3.1.4 Except for Emergencies
 - 3.1.5 Refer to Flow Chart Attachment A
 - 3.1.6 Utilize Spreadsheet, Refer to Attachment B
 - 3.1.7 Spreadsheet available at: <http://docuweb3/ngs/ed.aspx?name=Flight Notification Spreadsheet.pdf>
 - 3.1.8 Subsequent forms filed for the same day shall indicate Revision in the Flight # field

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- 3.2 All phone or radio communication with TCC:
 - 3.2.1 Shall utilize Three (3) Part Communication
 - 3.2.2 Refer to Attachment E
- 3.3 The primary contact shall:
 - 3.3.1 Ensure that all required notification and communication protocols are executed
- 3.4 Multiple helicopter use on the same project:
 - 3.4.1 Each PIC maintains the responsibility for
 - 3.4.2 Their aircraft operation
 - 3.4.3 Workers directly associated with their aircraft operation and / or work
 - 3.4.4 Notifications and communications between the helicopter crew(s) and workers
- 3.5 All notifications become part of the job brief record:
- 3.6 Emergency Flight Notifications:
 - 3.6.1 Shall be made ASAP prior to flight
 - 3.6.2 Spreadsheet submittal to TCC preferred
 - 3.6.3 When spreadsheet cannot be sent to the TCC:
 - 3.6.4 The primary contact shall:
 - a. Manually fill out the spreadsheet
 - b. Use spreadsheet data during verbal notification of the flight to the TCC
- 3.7 TCC Contact Information

Location (TCC)	Phone Number	Email
New England Control Center / REMVEC	1-800-382-7260	HelicopterNE@nationalgrid.com
New York Control Center	1-315-460-2130	HelicopterNY@nationalgrid.com

- 3.8 The TCC shall be notified upon completion of helicopter work for the day:
 - 3.8.1 By the Primary Contact, PIC or observer
 - 3.8.2 As soon as practical
- 3.9 Change in helicopter crew:
 - 3.9.1 The primary contact shall
 - 3.9.2 Notify the appropriate TCC
 - 3.9.3 Provide new contact information

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3.10 Change in Mission:

- 3.10.1 The primary contact shall
- 3.10.2 Notify the TCC of the change
- 3.10.3 Provide new mission information

4.0 TCC/REMVEC RESPONSIBILITY

4.1 The appropriate TCC/REMVEC shall:

- 4.1.1 For New York area flights
- 4.1.2 Provide the Primary Contact with the contact information for all other helicopter flights on National Grid Electric System in Upstate New York.
- 4.1.3 For New England area flights
- 4.1.4 Provide the Primary Contact with the contact information for all other helicopter flights on National Grid Electric System in New England.
- 4.1.5 For Flights of common Lines (both NE and NY)
- 4.1.6 Communicate with the other TCC
- 4.1.7 Provide the Primary Contact with contact information for all other helicopter flights on the National Grid Electric System
- 4.1.8 Provide all available information regarding all aerial patrols and/or aerial construction known in neighboring areas
 - a. To identify helicopter activity in neighboring utilities when known
- 4.1.9 Inform other entities of scheduled helicopter work including patrols on National Grid lines
- 4.1.10 As their procedures require such as (as applicable):
 - a. National Grid Security
 - b. Area ISO's
 - c. Regional Control Centers
 - d. Other Transmission Owners
 - e. Connected Generating Facilities

4.2 TCC shall log the notification data provided to them by primary contacts

5.0 PILOT IN COMMAND RESPONSIBILITY

The Pilot in Command is responsible for:

- 5.1 Obtaining the primary contact information for all other helicopter flights on the National Grid Electric System to discuss their location and activities

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- 5.2 Communication with other helicopters working:
 - 5.2.1 In the same ROW corridor
 - 5.2.2 Adjacent to the aerial construction
 - a. This communication must
 - 1. Occur before mission can proceed
 - 2. Be documented on the job brief
 - 5.2.3 Failure to contact other pilots will result in a no fly situation until remedied
- 5.3 Ensuring that during aerial construction work on National Grid lines:
 - 5.3.1 No other helicopters shall perform aerial inspection or patrol work
 - a. On line(s) within the same or adjacent ROW corridor
 - 1. Unless:
 - Positive contact notification procedures have been followed
 - An agreed action is reached by all pilots in command
 - All agreements shall include minimum distances to maintain between aircraft
 - Such distance shall be a minimum of 1/2 mile
- 5.4 Appointing a designate – if desired - to perform the notifications / communications required by this procedure
- 5.5 Reviewing the PHA for the work
- 5.6 Conducting a Job Brief for the work

6.0 RADIO FREQUENCY/JOB SITE COMMUNICATION

- 6.1 Helicopter Pilots are responsible for communication with each other:
 - 6.1.1 Radio frequency 123.025 MHz for helicopter air to air and air to ground communications
 - 6.1.2 Shall be utilized by all helicopters working for National Grid
- 6.2 A backup frequency for communications shall be:
 - 6.2.1 Clearly communicated to all members of the aerial crew
 - 6.2.2 Documented on the job brief
- 6.3 Approved Hand signals shall be used as a backup measure or in emergencies:
 - 6.3.1 Established prior to commencement of work
 - 6.3.2 Understood by all those involved
 - 6.3.3 Refer to Attachment C
- 6.4 In the event of complete loss of communications during Aerial Construction:

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6.4.1 PIC shall return to the closest Landing Zone

6.4.2 Rectify communication issues prior to resumption of work

7.0 AERIAL OBSERVATION PATROLS

Refer to HAI/UPAC Safety Guide for additional guidance.

7.1 In addition to the notification procedures in Section 3.0, a complete risk analysis and daily job brief shall be conducted by the pilot and observer

7.2 The Pilot and observer shall utilize aviation style safety helmets

7.3 The observer will have geographical knowledge of the region being patrolled as well as the construction standards of the assets being observed

7.4 Lap tops, other handheld devices and paper materials shall be safely secured

7.4.1 To prevent interference with cockpit instrumentation and flight controls

7.5 The observer shall follow

7.5.1 Sterile cockpit procedures at the pilot's direction

7.5.2 Crew Resource Management procedures instructed during FITWE training

7.6 There shall be no "Green on Green"

7.6.1 No first time observer paired with a first time pilot to the National Grid System

8.0 AERIAL CONSTRUCTION PROCEDURES

Refer to HAI/UPAC Safety Guide for additional guidance for various construction and/or maintenance procedures.

8.1 Communications - Pre-Flight Communication

8.1.1 Preflight meeting shall be conducted and documented by the Primary Contact

8.1.2 With the:

- a. Aerial Lead
- b. Construction Lead
- c. Pilot in Command

8.1.3 Shall address all aspects relating to the operation including:

- a. The responsibility of each individual
- b. Rigging
- c. Safety concerns
- d. Emergency procedures

8.1.4 The Pilot in Command shall:

- a. Ensure that all persons working with the helicopter fully comprehend their functions and responsibilities

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- 8.1.5 Document the meeting and all personnel attending the meeting must sign an attendance roster
- 8.1.6 The Primary Contact shall:
 - a. Establish and maintain reliable communications among
 - 1. The pilot
 - 2. The employees transferring to or from the helicopter
 - 3. The employees on the ground
 - 4. Document the agreed upon Radio Frequency on the Job Brief
- 8.1.7 Verbal communication through radios is the preferred method of communication
- 8.2 Job Brief
 - 8.2.1 Filled out by the person in charge of the work
 - 8.2.2 Contains at a minimum:
 - 8.2.3 Radio frequency to be used
 - 8.2.4 Relevant details of coordination meetings
 - a. See Sections 8.1.1 and 8.1.2
 - 8.2.5 All personnel attending the meetings shall sign the attendance roster/job brief
- 8.3 During the Job Brief all members of the aerial crew shall:
 - 8.3.1 Perform a radio check
 - a. Ensure all transmitters/receivers are functioning properly
 - 8.3.2 Establish a “lost communication” procedure:
 - a. For loss of radio and or visual contact with the pilot and ground crew
 - b. Include procedure to stop work and commence search patterns as needed
 - 8.3.3 Designate a person or persons as the signal person
- 8.4 Process Hazard Analysis:
 - 8.4.1 The PHA shall be reviewed as part of the daily job brief
 - 8.4.2 With particular attention on that day’s tasks
 - 8.4.3 Shall include input from the construction and aerial crews
 - 8.4.4 Aerial and Construction Supervisor/Lead shall disseminate the details of the work for that day to all additional crews
 - a. Utilize individual crew daily Job Briefs
- 8.5 Inter-Helicopter Air to Ground Operations:
 - 8.5.1 More than one helicopter working on a Line
 - 8.5.2 Close communication between helicopters and ground crews required

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- a. Discussed and agreed upon before flight operations begin
- 8.5.3 Leap Frog flight activities
- 8.5.4 Maximum of two helicopters allowed
- 8.5.5 Shall follow the site specific HASP for that operation
- 8.5.6 Process Hazard Analysis, HASP and Job briefs shall discuss the specifics of
- 8.5.7 Approach to ROW work:
 - a. Communications
 - b. Protocols for entry and exit to the work zone
- 8.6 During Leap Frog Flight Activities:
 - 8.6.1 Other helicopters working on the same project
 - 8.6.2 Shall stay at a minimum of one half mile away from each other
 - a. During work
 - b. In transit
 - 8.6.3 Primary communication shall be between the pilot and the Primary Contact
 - 8.6.4 All others will take direction from these two individuals
 - 8.6.5 When a helicopter is being used to monitor the progress of a wire pull
 - 8.6.6 The pilot shall be in radio contact with
 - a. The person-in-charge of the stringing operation
 - b. And the person(s) at the controls of the tension / pulling machine(s)
- 8.7 Other General Procedures :
 - 8.7.1 During helicopter construction work
 - 8.7.2 No other wire or rope stringing activities will take place
 - a. Other than what is immediately being worked on with the helicopter
 - 1. All other equipment shall be shut down and secured along the stringing route or section
 - 8.7.3 Installation of line specific hardware by ground crews
 - 8.7.4 Shall be conducted a minimum distance of 2 structures away from helicopter aerial work
 - 8.7.5 Construction Crews shall remain
 - 8.7.6 A minimum of 2 structures away from the helicopter work
 - a. Provides a minimum safety zone of 2 spans
 - b. Crews working on structures to directly support helicopter activity are Aerial Crews

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- 8.7.7 Aerial Crews working with the helicopter shall be distinctly identified
- 8.7.8 Some methods are
 - a. Hard hat color
 - b. Hard hat cover
 - c. Clothing color
 - d. Colored vest
 - e. Allows the Pilot to immediately identify them
- 8.7.9 Site visitors shall remain 2 structures away from the aerial work location unless
- 8.7.10 They have signed onto the job brief
- 8.7.11 Are properly identified
- 8.7.12 If other unidentified workers or civilians are discovered within the minimum safety zone
 - a. Work shall stop until
 - 1. Such persons are under the control/direction of the Primary Contact
- 8.7.13 Helicopter skid/platform line workers and Pilot shall maintain situational awareness
- 8.7.14 Pilot and worker have specific task focus but need to share information to enhance safety
- 8.7.15 Smoking is prohibited:
- 8.7.16 Around helicopter platforms
- 8.7.17 At LZs
- 8.7.18 At refueling facilities
- 8.7.19 HASP
- 8.7.20 Shall describe landing zone procedures for the class of helicopter in use
 - a. Per the United States Department of the Interior (Office of Aircraft Services)
- 8.7.21 Shall include all pertinent PPE for aerial and aerial ground crew support
 - a. Including head, clothing, hearing and eyewear protection required for the work
 - b. Shall describe helicopter bonding and wand on/off procedure
- 8.7.22 Helicopter Construction work shall
- 8.7.23 Not be performed when ceiling or visibility is less than the prescribed weather minimum
- 8.7.24 Follow the criteria per the general operating flight rules in the FARs and AIM
- 8.7.25 When following the marking sock during wire stringing operations

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8.7.26 The helicopter shall maintain a minimum

- a. Altitude of 100 feet above the highest point of structures on the line
- b. Distance of 50 feet laterally off the centerline of the line involved

As terrain and obstructions permit

8.7.27 Use of long lines or other lifting/rigging equipment with the helicopter

8.7.28 Ensure the line equipment is properly installed

8.7.29 Utilize a dual release system

8.7.30 Shall not interfere with the operation of the helicopter

8.7.31 Shall not create any safety issues

8.7.32 Helicopters shall not cross under power lines

8.7.33 Always traverse line crossings at structures

8.7.34 Pilots shall adhere to all

8.7.35 FAA NOTAM

8.7.36 Temporary Flight Restrictions

8.7.37 Each helicopter shall be equipped with

8.7.38 An ELT

8.7.39 A GPS based tracking system

- a. Such as Sky Connect brand, model # PIN 1616-050-03A Transceiver & PIN 161-052-00 Dialer
- b. Or equivalent

8.7.40 FAA guidelines at a minimum will dictate daily flying times

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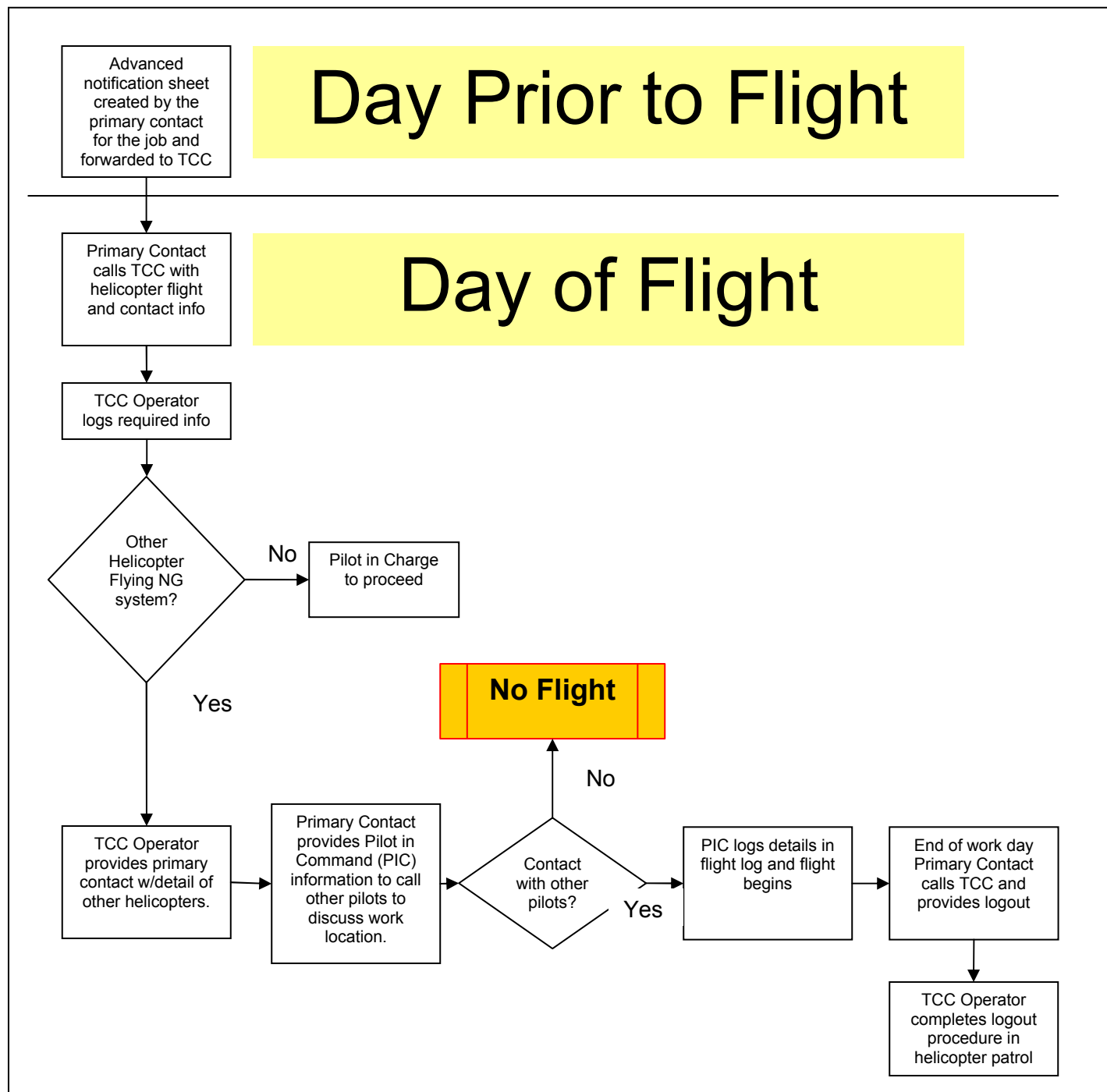
9.0 REVISION HISTORY

<u>Version</u>	<u>Date</u>	<u>Description of Revision</u>
1.0	07/01/10	Initial version of document.
2.0	04/01/11	Supersedes document dated 07/01/10.
3.0	04/13/12	Supersedes document dated 04/01/11.
4.0	09/30/14	Supersedes document dated 04/13/12.

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ATTACHMENT A - NOTIFICATION FLOW CHART



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ATTACHMENT B – Helicopter Flight Notification Sheet Example

9.1.1 Spreadsheet available at: <http://docuweb3/ngs/ed.aspx?name=Flight Notification Spreadsheet.pdf>

Helicopter Flight Notification Sheet														
Date	Call time on / off			Form Filed By:	Name:	N.E. Buddy	Phone Number:	555-555-1212	Flight #	N739NM				
Notifications (as applicable)				Title:		Supervisor	Cell Number:	555-555-1212						
Security	[]	Notified:		Date:		mm/dd/yyyy								
Generator	[]	Notified:												
Other TO's	[]	Notified:												
RO's	[]	Notified:												
Lines may not be flown in the order listed below:														
Number	Appx Flight Times	Helicopter Information			Contacts			Line Being Flown						Work location
		Company	Color	Tail #	Person	Name	Cell #	Line Name	Starting Str.	Ending Str.	City/Town	State		
	Start Date: mm/dd/yyyy Start Time: 0:00 End Date: mm/dd/yyyy End Time: 0:00	National Grid	Brown / White	N739NM	Primary	N.E. Buddy	555-555-1212	Edie New Scotland 14	1	536	New Scotland	NY	IR Patrol including tower	
	Start Date: Start Time: End Date: End Time:				Pilot	Trained Pilot	518-555-1212							
	Start Date: Start Time: End Date: End Time:				Observer #1	Trained Observer	315-555-1212							
	Start Date: Start Time: End Date: End Time:				Observer #2	Trained Observer	508-555-1212							
	Start Date: Start Time: End Date: End Time:				Primary									
	Start Date: Start Time: End Date: End Time:				Pilot									
	Start Date: Start Time: End Date: End Time:				Observer #1									
	Start Date: Start Time: End Date: End Time:				Observer #2									
	Start Date: Start Time: End Date: End Time:				Primary									
	Start Date: Start Time: End Date: End Time:				Pilot									
	Start Date: Start Time: End Date: End Time:				Observer #1									
	Start Date: Start Time: End Date: End Time:				Observer #2									
	Start Date: Start Time: End Date: End Time:				Primary									
	Start Date: Start Time: End Date: End Time:				Pilot									
	Start Date: Start Time: End Date: End Time:				Observer #1									
	Start Date: Start Time: End Date: End Time:				Observer #2									
	Start Date: Start Time: End Date: End Time:				Primary									
	Start Date: Start Time: End Date: End Time:				Pilot									
	Start Date: Start Time: End Date: End Time:				Observer #1									
	Start Date: Start Time: End Date: End Time:				Observer #2									

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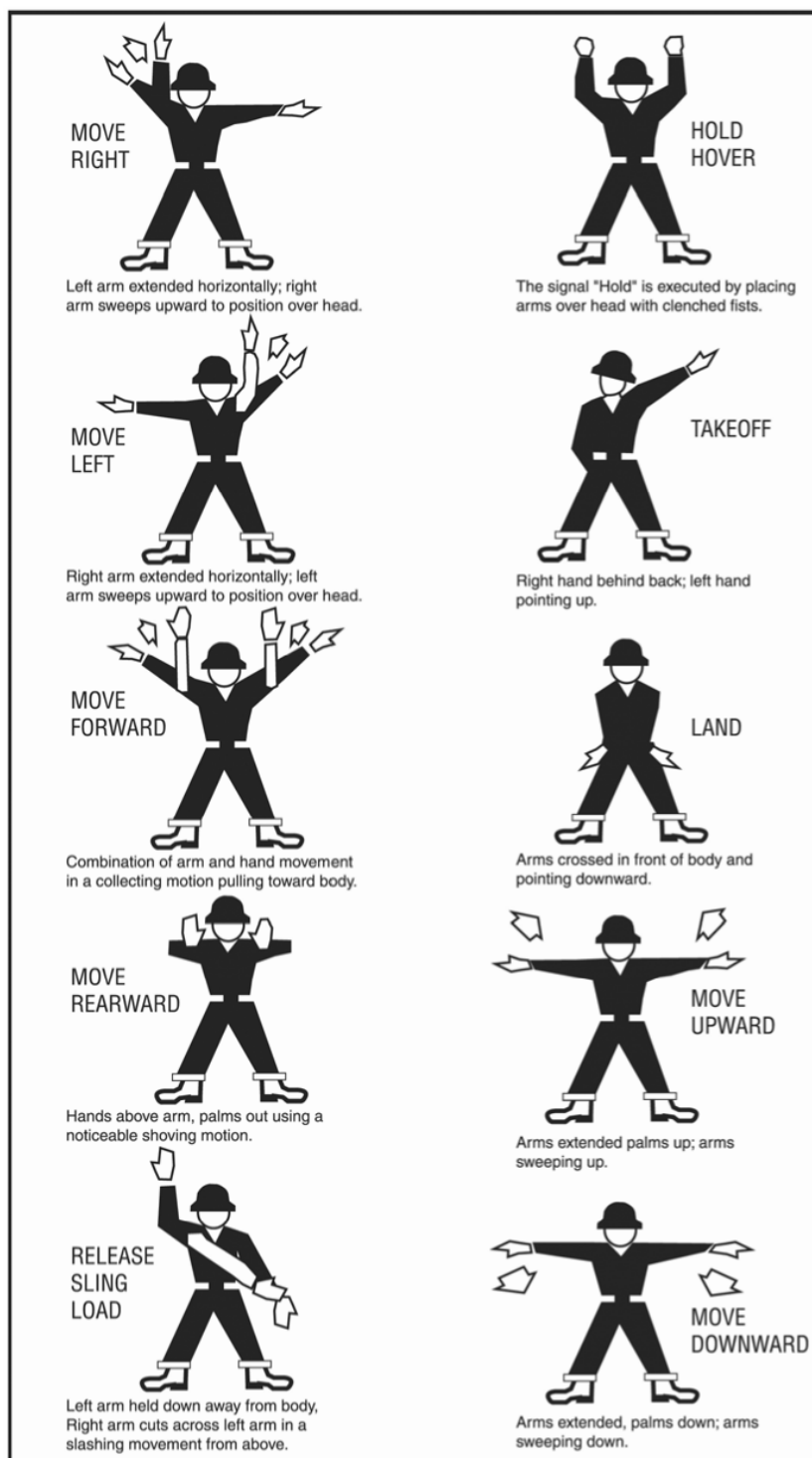
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ATTACHMENT C – NON VERBAL COMMUNICATION HAND SIGNAL CHART



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ATTACHMENT D – PHA Example using PHA Works

Worksheet

Page: 1
 Company: National Grid
 Facility: various lines / multiple locations through out National Grid Service Territory
[Table of contents](#)
 Session: (3) 02/02/2012
 Revision:
 Node: (1) Aerial Wire Maintenance using helicopters for work on Electric Transmission Lines
 Drawings:
 Parameter: Construction Factors
 Intention: To identify potential large scale hazard scenarios related to construction activities in line with process safety implications

GW	HAZARD	CAUSES	CONSEQUENCES	SAFEGUARDS	S	L	R	REF#	ACTION ITEMS	OWNER
Part Of		Helicopter PreFlight Activity 1. General Communication & Radio Procedures	1.1.1. potential serious injuries to workers on the ground or in the air plus operational impacts (op impacts not part of pha)	1.1.1.1. Notification of NE/NY TCC by the Primary Contact is required prior to any work beginning. This must be initiated the evening prior to scheduled work operations, utilizing the TCC Helicopter Advance Notification spreadsheet and utilizes National Grid 3 Part Communication Protocols during the daily telephone notification to TCC.	3	1	L/M			
				1.1.1.2. Emergency flight ops for restoration activities will take precedence over planned work.						
				1.1.1.3. Daily Tailboard Briefings each morning at the jobsite and anytime there is a change in job scope. Primary Contacts, PICs, essential crewmembers, and ground personnel will attend and sign						
				1.1.1.4. Perform and document Process Hazard Analysis (PHA) for Daily Tasks and accompanying risk mitigation profiles						
				1.1.1.5. Keep project contact phone numbers on Daily Paperwork.						
				1.1.1.6. Create and review a new Daily Tailboard/PHA if the Scope of Work (SOW) changes.						
				1.1.1.7. Verify line status with National Grid Supervisor. Always presume every line is energized						
				1.1.1.8. Ground personnel should stay in constant contact with Helicopter via radio, using appropriate discreet frequencies or channels. Primary/secondary frequencies or channels to be determined and noted on job brief.						
				1.1.1.9. Discuss hand signals in case of radio malfunction and lost communication.						
				1.1.1.10. Primary Contact from Helicopter Operator and PIC from operator will be originators of communication and disseminate info to others in work evolution.						
				1.1.1.11. Initial advanced communication plus communication during the job with local airports and with NGrid TCC to safeguard from other aircraft potentially in the						

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ATTACHMENT E - Helicopter Flight Communication Protocol (3 Part Communications)

Step 1 - Communication to Notify Transmission Control/REMVEC of a Helicopter Flight

- Note: When a spreadsheet has been provided that lists **multiple** lines to be flown, the date and flight number on the filing form may be referenced instead of stating each line to be flown and the "from" and "to" substations.

a. Person reporting Flight:

This is (*state your name*), reporting a helicopter flight on (*Date*), from (*start time*) to (*end time*). (*Helicopter company name*), will be flying a (*colors*) helicopter with (*tail #*), primary contact is (*name and phone number*), pilot contact information is (*name and phone number*). Helicopter Flight will leave (*location or airport*) and encompass (*Line / Lines to be flown ***). We will be departing at (*time of departure*).

(**Refer to dated submitted Spreadsheet notification form if provided, reviewing the list of lines to be flown)

b. Transmission Control/REMVEC:

I understand you, (*repeat name of person reporting*), are reporting a Helicopter Flight, on (*Date*), from (*start time*) to (*end time*). (*Helicopter company name*), will be flying a (*colors*) helicopter with (*tail #*), primary contact is (*name and phone number*), pilot contact information is (*name and phone number*). Helicopter Flight will leave (*location or airport*) and encompass (*Line / Lines to be flown ***). We will be departing at (*time of departure*).

(**Refer to dated submitted Spreadsheet notification form if provided, reviewing the list of lines to be flown)

c. Person reporting Flight:

That is correct.

- If any information was not clear or correct, repeat back to the Transmission Control Operator information that needs to be clarified.

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Step 2 - Communication to Notify Person reporting Flight of other Flights in the appropriate National Grid Service Territory

- If other flights have been reported to Transmission Control/REMVEC, the Operator shall report the following for each flight:

d. Transmission Control/REMVEC:

We also have the following Helicopters flying in our territory at the same time, (*Helicopter company name(s)*) will be flying a (*colors*) helicopter(s) with (*tail #'s*), primary contact(s) is/are (*name(s) and phone number(s)*), pilot(s) (*name(s) and phone number(s)*).

e. Person reporting Flight:

I understand that the following Helicopters are in our territory at the same time (*company name(s)*) will be flying a (*colors*) helicopter(s) with (*tail #'s*), primary contact(s) is/are (*name(s) and phone number(s)*), pilot(s) (*name and phone number(s)*). I will contact this/these helicopter(s) pilot(s) prior to departing for our flight.

f. Transmission Control/REMVEC:

That is correct.

- If any information was not clear or correct, repeat back to the Person reporting Flight information that needs to be clarified.

Step 3 – Change in Flight Mission - Communication to Notify Transmission Control/REMVEC

- Whenever a change in mission is required the primary contact shall repeat Steps 1 & 2 above before the flight may continue.

Step 4 – Change in Primary / Observer / Pilot Flight - Communication to Notify Transmission Control/REMVEC

- If it becomes necessary to change the crew during a flight, the primary contact shall call back into Transmission Control / REMVEC and repeat procedures and advise of the name changes using 3 Part Communications.

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