FIGURE 1. RECOVERY CONTINUUM – DESCRIPTION OF ACTIVITIES BY PHASE

PREPAREDNESS

ONGOING

SHORT-TERM

DAYS

INTERMEDIATE

WEEKS-MONTHS

LONG-TERM

MONTHS-YEARS

PRE-DISASTER

RECOVERY PLANNING

MITIGATION PLANNING AND IMPLEMENTATION

COMMUNITY CAPACITY- AND RESILIENCE-BUILDING

CONDUCTING DISASTER PREPAREDNESS EXERCISES

PARTNERSHIP BUILDING

ARTICULATING PROTOCOLS IN DISASTER PLANS FOR SERVICES TO MEET THE EMOTIONAL AND HEALTH CARE NEEDS OF ADULTS AND CHILDREN

SHORT-TERM RECOVERY

Examples include:
- Mass Care/Sheltering
- Provide integrated mass care and emergency services
- Debris
- Clear primary transportation routes
- Business
- Establish temporary or interim infrastructure to support business reiterations
- Reestablish business
- Establish temporary or interim infrastructure to support business reiterations
- Reestablish business
- Emotional/Psychological
- Identify adults and children who benefit from counseling or behavioral health services and begin treatment
- Public Health and Health Care
- Provide emergency and temporary medical care and establish appropriate surveillance protocols
- Mitigation Activities
- Assess and understand risks and vulnerabilities

INTERMEDIATE RECOVERY

Examples include:
- Housing
- Provide accessible interim housing solutions
- Debris/Infrastructure
- Initiate debris removal
- Plan immediate infrastructure repair and restoration
- Business
- Support reestablishment of businesses where appropriate
- Support the establishment of business recovery one-stop centers
- Emotional/Psychological
- Engage support networks for ongoing care
- Public Health and Health Care
- Ensure continuity of care through temporary facilities
- Mitigation Activities
- Inform community members of opportunities to build back stronger

LONG-TERM RECOVERY

Examples include:
- Housing
- Develop permanent housing solutions
- Infrastructure
- Rebuild infrastructure to meet future community needs
- Business
- Implement economic revitalization strategies
- Facilitate funding to business rebuilding
- Emotional/Psychological
- Follow-up for ongoing counseling, behavioral health, and case management services
- Public Health and Health Care
- Reestablishment of disrupted health care facilities
- Mitigation Activities
- Implement mitigation strategies

NATIONAL DISASTER RECOVERY FRAMEWORK (NDRF)
What is the NDRF?

- The NDRF is a companion document to the National Response Framework (NRF) which deals with immediate disaster response (perform “Triage”) and it is supported by the on-going development of detailed operational, management, field guidance, and training tools for dealing specifically with the Recovery efforts (perform “Physical Therapy”) short, immediate, and long term.

- A guide to promote effective Recovery, particularly for those incidents that are large-scale or catastrophic.

- NDRF applies to all Presidentially declared major disasters – invokes the Stafford Act.
Infrastructure Systems
Recovery Support Function

Agencies and their roles

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<tr>
<th>COORDINATING AGENCY</th>
<th>PRIMARY AGENCIES</th>
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<td>![Coordinating Agency Logo]</td>
<td>![Primary Agency Logos]</td>
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<th>SUPPORTING AGENCIES</th>
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<td>![Supporting Agency Logos]</td>
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Infrastructure Systems
Recovery Support Function

• What is the role as Primary Coordinating Agency?
  – An RSF primary agency is a Federal agency with significant authorities, roles, resources or capabilities for a particular function within an RSF.
  – Primary agencies orchestrate Federal support within their functional area for an affected State and may lead interagency field assessment or support teams as necessary.
  – Support organizations are those entities with specific capabilities or resources that support the primary agency in executing the mission of the RSF.
  – The principal distinction between a primary and a supporting agency is the frequency with which the agency may be expected to actively participate in a RSF operation.
  – RSF agencies provide assistance when requested by the Federal Disaster Recovery Coordinator (FDRC) or the designated RSF coordinator, consistent with their authority and resources, or as directed pursuant to section 402 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act).
What is Infrastructure Systems under the NDRF?

The Scope of this RSF includes the following Infrastructure Sector and Subsectors (as defined through the NIPP – National Infrastructure Protection Plan – 18 Sectors/16 Sectors defined in PPD21) energy, water/waste water, dams, manufacturing, communications, transportation systems, Agricultural (food production and delivery), chemical, financial services, defense industrial base, nuclear reactors, emergency services, government facilities, commercial facilities, IT, and healthcare and public health.

Two former sectors: National Monuments and Icons falls under Government Facilities and Postal and Shipping falls under the Transportation Systems.
Infrastructure Specific Agency and Key Resources Sectors

- **Department of Agriculture**
  - Agriculture and Food

- **Department of Defense**
  - Defense and Industrial Base

- **Department of Energy**
  - Energy

- **Department of Health and Human Services**
  - Public Health and Healthcare

- **Department of Homeland Security**
  - Critical Manufacturing Sector

- **Department of the Treasury**
  - Banking and Finance

- **Environmental Protection Agency**
  - Drinking Water and Water Treatment Systems
Infrastructure Specific Agency and Key Resources Sectors

- Department of Homeland Security
  Office of Infrastructure Protection
  Chemical

- Department of Homeland Security
  Office of Infrastructure Protection
  Commercial Facilities

- Department of Homeland Security
  Office of Infrastructure Protection
  Dams

- Department of Homeland Security
  Office of Infrastructure Protection
  Emergency Services

- Department of Homeland Security
  Office of Infrastructure Protection
  Nuclear Reactors, Materials and Waste

- Department of Homeland Security
  Office of Cyber Security and Communications
  Information Technology

- Department of Homeland Security
  Office of Cyber Security and Communications
  Communications

- Department of Homeland Security
  Transportation Security Administration/
  U.S. Coast Guard
  Transportation Systems

- Department of Homeland Security
  Office of Infrastructure Protection
  Government Facilities
Intro to the RSF & its Capabilities

The goal of the infrastructure systems recovery process is to match the capacity of all infrastructure systems to a community’s current and projected demand on its built and virtual environment.

- The IS RSF’s will pursue this course of action to the extent allowable by available resources and current program authorities.
- Accordingly, the end-state for IS RSF engagement occurs when infrastructure systems recovery goals are met OR
- When IS RSF member agencies’ existing programs and authorities are exhausted and/or external funding is no longer available to continue operations.
Pre-Disaster: Infrastructure RSF

- Develops guidance and standard procedures for rapid activation of RSF capabilities to support community recovery.
- Identifies relevant statutory and/or regulatory programs, potential capabilities and/or limiting factors pertaining to recovery support for infrastructure systems.
- Provides a forum for interagency coordination, information sharing and exchange of effective practices.
- Supports planning, preparedness, education, training and outreach efforts to enhance capabilities for recovery.
- Works with partners to identify critical facilities and ensure considerations are made to reduce risk pre- and post-disaster.
Post-Disaster: Infrastructure RSF

- When activated by the FDRC, the primary and supporting departments and agencies deploy in support of the Infrastructure Systems RSF mission.
- Supports the recovery of infrastructure systems, dependent on the nature and scope of the disaster, and the specific authorities and programs within the jurisdiction of participating departments and agencies.
- Participates in the national-level coordination of damage and community needs assessments as appropriate to ensure infrastructure considerations integrate into the post-disaster public and private sector community planning process.
- Deploys RSF resources, as required by the specific disaster situation and consistent with the specific authorities and programs of the participating departments and agencies, to the field to assist the affected community in developing an Infrastructure Systems Recovery action plan that:
National Disaster Recovery Framework - Infrastructure Assessment Mission - Puerto Rico

**Last 24:**
- NDRF Mission Restructured
- Six IA Sectors - Sector Chiefs
- NDRF Coordinators Embedded in Creative Solution Team
- Corps IA Coordinators Liaison between Infrastructure Directorate and Sectors

**Next 24-48:**
- Meeting with Food Security and DHS Interdependency Study Group
- Meeting with USACE Power Mission (Col. Lloyd) Jan. 25
  - Upcoming Workshop in February

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<td>250,000</td>
<td>June 2018</td>
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Johann.M.Sasso@usace.army.mil
IS RSF JFO Configuration

Level 1 Disaster Threat (All hands on Deck)

- IS RSF Configuration
  - Normal USACE IS RSF Field Coordinator – Johann Sasso
  - SME from DHS-NPPD-IP – Sandra Pinel
  - SME from DOT – Jim Robinson
  - SME from DOE – Joseph Hanna
  - SME from FEMA PA – Rachel Hildenbrand
  - SME from EPA – Jamie Geliga

- Ensured the USACE Division had what was needed
  - Included Coastal Restoration SME
  - 1 Additional Field Coordinator because of the volume of work

- Established Timeline
  - Mission Scoping Assessment (30-60 days, projected end of early to mid February 2018)
    - Detail description of damage in all sixteen Infrastructure Sectors –before and after
  - Recovery Support Strategy (30-60 days, projected end of April/early May)
    - Detailed Solutions to all issues in Short, Intermediate, and Long Term (All sectors)
Recent Developments

- Pool is 14.91 feet (at 631.09 feet) below spillway crest at 046 ft on 17 NOV. Target elevation for recommendation to lift evacuation order is 14.0 feet and for interim repairs is 17.0 feet below the crest.

- All Thompson pumps are in place and capable of being operated. Seven pipes discharge into the water supply canal and three into the river. A quick change system is being provided to allow two pipes from the river to be moved to the water supply canal as needed.

- Measured flow in the canal on 16 NOV was 42 cfs.

- An alternative to siphons is currently being discussed due to the prohibitive costs of such a system. The alternative would involve keeping the pumps on site and constructing a reserve siphon to allow the 54" conduit to be used for water supply.

- PREP-P expressed concerns that the target pool elevation for the Phase 2 interim repairs may be too low to sustain water supply during the dry season. The new target elevation for the dry season is 636.3 feet.

- Phase II progress includes completed specs and plans for spillway void grouting, anchoring, and crack sealing.

- Rio Grande de Manati levee restoration expected award late NOV; fund request is being submitted to SAD.

- The path forward for PHASE III is still being considered. POTUS approval of additional categories of FEMA public assistance provides an alternate route to fund the repairs other than congressional authorization.
Who Are The IS-RSF Field Coordinators?

Statistics
- 30 in Cadre across MSCs
- 50% have experienced an IS-RSF mission
- MVD has most experience (Louisiana)
- SAD & LRD most recently activated
- NAD & NWD pre-2015 experience
- Self-described background shown in chart

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<tr>
<td>Jami Buchanan</td>
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<td>Noel Clay</td>
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<td>Chuck Oliver</td>
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