FEDERAL COLUMBIA RIVER POWER SYSTEM

PROTOCOLS FOR EMERGENCY OPERATIONS IN RESPONSE TO GENERATION, TRANSMISSION OR OTHER EMERGENCIES—

FOR ATTACHMENT TO THE
WATER MANAGEMENT PLAN
AND OTHER APPROPRIATE ACTION PLANS

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A. Introduction

This paper attempts to define a protocol for reacting to short term (approximately 1-7 days of duration) emergency conditions and situations that arise affecting the generation and delivery of energy produced by the Federal Columbia River Power System (FCRPS) (herein after called emergency), including the immediate response taken in the face of the emergency and any necessary follow-on activities deemed appropriate as a consequence of the emergency and the immediate response. The specific purpose for this effort is to establish a formal, written procedure for actions affecting the system when an emergency occurs. For emergencies of a longer duration, the notification process outlined in this document will be followed and the overall procedures identified in Section 9 of the NMFS 2000 BiOp will be followed.

The purposes of these protocols are to: 1) identify types of emergencies; 2) identify procedures for responding to emergencies including follow-up activities; and 3) establish procedures for the consideration of alternative actions to provide benefits to fish and wildlife that were affected by the emergency as described in Section F.

It is the intent that these protocols would be incorporated into the annual Water Management Plan of the Technical Management Team (TMT) to guide actions taken by the Federal operating agencies and other parties in the Region as they seek to meet the performance standards developed in the 2000 BiOps.

B. Definition of an Emergency:

"**e•mer•gen•cy** (i mur'jen se), n., pl. **-cies**. a sudden, urgent, usually unforeseen occurrence or occasion requiring immediate action."

Random House College Dictionary, 1980

It is appropriate to define emergencies as they apply to the operation of the FCRPS. As evident from previous actual events, emergencies are a unique situation having the potential for many types of impacts, generally requiring some type of action or response to minimize or eliminate impacts. An emergency may require an operating agency to operate the FCRPS in a manner other than the planned operation contained in the 2000 Biological Opinions or the associated Decision Documents (Corps' Record of Consultation Statement of Decision (Corps' ROCASOD); Reclamations' Findings…(Reclamations' FINCOM); BPA's Record of Decision (BPA ROD) issued by the operating agencies (probably footnote the individual names and collectively call them Decision Documents). These events may increase fish mortality above levels anticipated in the 2000 Biological Opinions and Decision Documents (RODs).

However, it is important to distinguish emergencies from "planned risks." In operating a complex system such as the FCRPS, certain risks are assumed every day. Future conditions are uncertain. Operational decisions rely on predictions, forecasts and probabilities. If an extreme circumstance occurs, it is not necessarily an emergency even though it was sudden and urgent, and caused an immediate action to be taken.

C. Goals:

1. An overall goal of this protocol is to prevent or minimize, and offset actions associated with emergency-related FCRPS impacts to the fish protection measures in the Biological Opinions and Decision Documents . ***

2. To achieve this goal, the Federal operating agencies will maintain and use system flexibility including power purchases in-season so that responses to emergencies, when required, will consider alternatives that prevent or minimize fish impacts. The Federal operators commit to improving system reliability by identifying and completing actions to achieve improved reliability.

3. Another goal of this protocol is to complete timely coordination and consultation in accordance with Section E.

*** This does not create legal rights or obligations on the part of any party.

D. Types of Emergencies:

For this protocol, emergencies are divided into three types. Each type is described below and illustrated with several examples.

1. Generation Emergency - the potential for or actual insufficiency of electrical generation to satisfy electrical demand or load in a particular geographical area

considered in the 2000 Biops. The insufficiency can be of short duration (a capacity shortfall) or have the potential to persist for a period of time (an energy shortfall) and is usually spread over a defined geographical area as determined by the interconnectivity of the transmission and distribution system.

For example, a generation emergency may be caused by a cold snap which is a forecasted period of three (3) or more days when the composite Pacific Northwest load center (Seattle, Portland and Spokane, weighted by relative Federal system loads) average temperature is at least 8.33 degrees Celsius (15 degrees Fahrenheit) below daily averages. A generation emergency may also be caused by an unanticipated loss of a generating resource - a project/unit forced outage; or by a restriction in the amount of water available for project discharge - reducing on-site generation; or by a loss of electrical transmission capability used to import electricity into a particular geographic area - a transmission line restriction or shutdown.

2. Transmission Emergency - the potential or actual loss or limitation in the ability to move electricity from the site of generation to the actual consumer or end-user.

   For example, a transmission line may fail, shutdown or otherwise be unavailable to transmit any electrical energy - a line outage; or a physical condition may exist that prevents or limits effective and reliable transmission - insufficient reactive power (VARs) to overcome the inherent losses in long-distance transmission; or a temporary limitation on transmission line capability that restricts the export of electricity - which causes a generation surplus in one area, thus reducing overall generation levels but causes a shortage in another area as noted above in the description for a generation emergency.

3. Other Emergency - the existence or result of extenuating circumstances which fall outside the range of normal operations, is unanticipated, and may result in catastrophic impact, physical damage or failure to part of the physical power system.

   For example, all natural disasters fall under this category of emergency - earthquakes, floods, and fires; or human caused failures - ship or barge strandings, facility failures (e.g., locks, gates, outlets, etc.), chemical spills into the river, train derailments impacting the river and terrorist acts; or overriding circumstances or needs that require operations to exceed normal limits such as a police investigation, a rescue operation, and a project operation specifically designed to prevent damage to or protect other parts of the FCRPS. There may also be Western Electricity Coordinating Council (WECC) required actions for system reliability.

   NMFS' 2000 Biological Opinion on the FCRPS recognized the need to involve regional executives in the event of power system emergencies which are of exceptional magnitude or duration.

There are number of "givens" surrounding emergencies:

- As the dictionary definition implies, emergencies are unforeseen and can occur at any moment in time.
- While many types of emergencies can be identified or described (as was done just above), not all emergencies can be so identified prior to the occurrence .
- Emergencies are first recognized by those individuals who operate or are responsible for the system or facility.
- Generally, the individual who recognizes the emergency is the first person to take steps in responding to the situation.

- It is possible to plan for and to develop procedures for responding to many, but not all, emergencies.
- The level or critical nature of emergencies spans over a range from those emergencies that require immediate action to those that allow for coordination among affected parties prior to action.

E. Emergency Protocol:

1. Emergencies can be further categorized by level of degree or immediacy – a Red Level emergency is an emergency in which time is essential and quick action is required because of an immediate public safety concern. For the power system, this type of emergency is characterized by system instability or the potential for electrical service to be interrupted. A Yellow Level emergency is an emergency in which operation can continue without immediate or significant public safety concerns. For the power system, this type of emergency is characterized by a stable system with no immediate loss of load-serving capability.

2. In a Red Level emergency situation, the Corps, Reclamation, and BPA will act as necessary and do what is necessary to maintain power system stability and public safety. One of the Federal agencies will provide notification as soon as practicable that a Red Level emergency has occurred to the IT and TMT chairs (who will disseminate information regarding the emergency to members of these teams) and to a designated list of "first contacts" from the TMT. The notification will include a brief description of the event, and will detail action that is being taken in response to the emergency. A more detailed (one page) written incident report will be provided to the IT and TMT chairs and the first contacts of TMT by the following day or as soon as practicable. It will include the following information: 1) description of the emergency, how it occurred, and how long it is anticipated to last, 2) description of how the emergency jeopardized system stability or public safety, 3) identification of agencies that declared and responded to the emergency, 4) identification of who were notified of the emergency, 5) description of what actions were taken by each agency, and 6) identification of alternatives considered to reduce and offset impacts of the emergency. In a Red Level emergency, FCRPS operators will consider Standard Operating Procedures for specific projects, the action lists that have been developed in the TMT, and/or

guidance from appropriate Federal agencies to try to restore the system to conditions prior to the emergency. Priority action lists and other procedures developed through TMT will be contained in the annual Water Management Plan. They include, but are not limited to, a spill priority list for managing total dissolved gas, a generation emergency response action plan and others. See Appendices at the end of this document for Action Lists and Procedures.

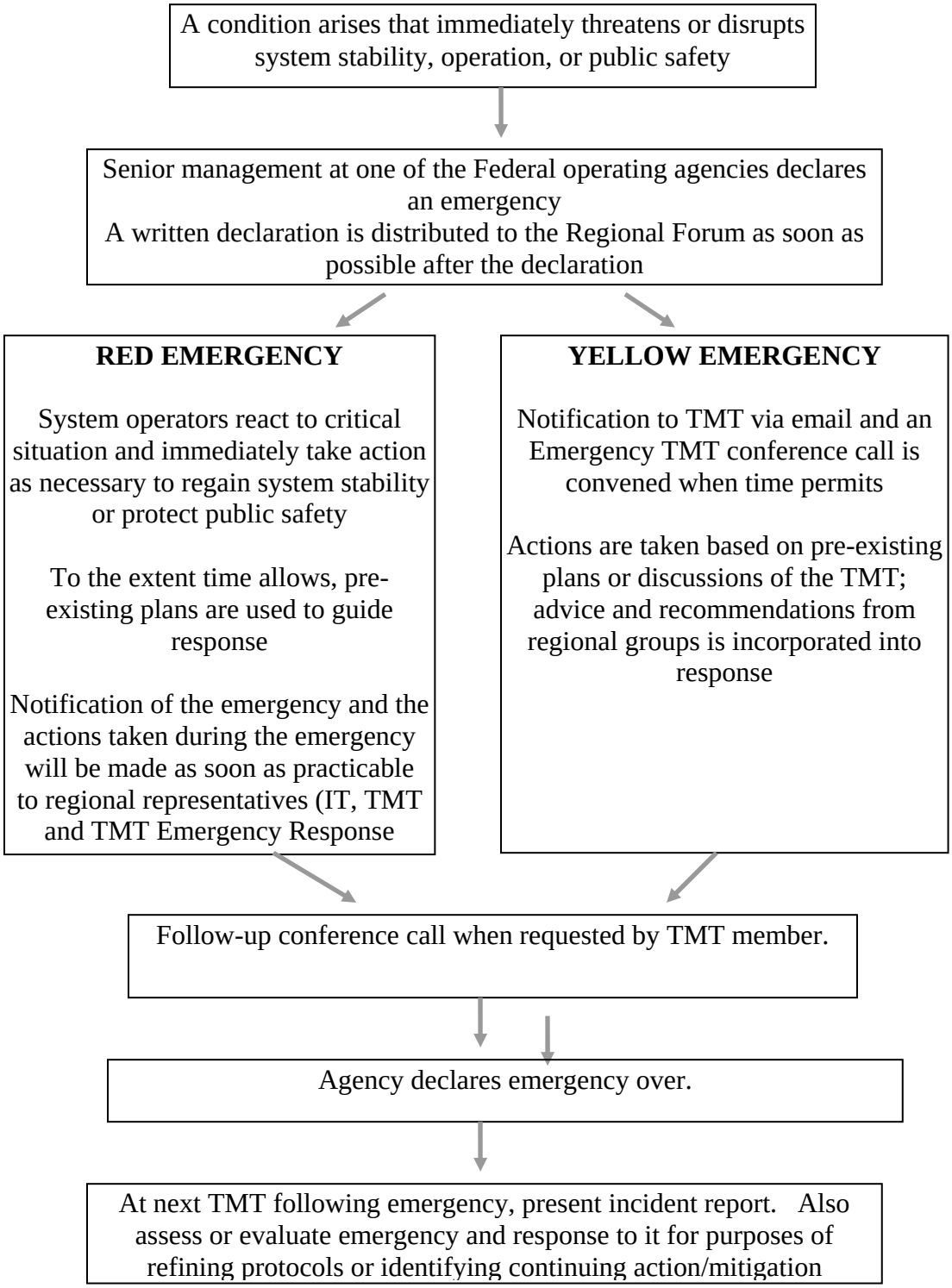
3. In the event of a Yellow Level emergency, the Corps will notify TMT members via email and if time permits, convene an emergency TMT call to discuss the potential emergency situation. Preparatory actions may begin at this time in an attempt to lessen the severity, adverse biological impacts, or length of the emergency. All efforts should be made to take actions during the emergency which have been contemplated in advance. Extraordinary actions beyond those contemplated will be revisited with the TMT as soon as possible after the action.. In a Yellow Level emergency, the Action Agencies will consider the priority action lists, direction from TMT or other groups, Standard Operating Procedures for specific projects, and/or guidance from appropriate Federal agencies to try to restore the system to conditions prior to the emergency. Action lists and other procedures developed through TMT will be contained in the annual Water Management Plan. They include, but are not limited to, a spill priority list for managing total dissolved gas, a generation emergency response action plan and others. See Appendices at the end of this document for Action Lists and Procedures.

4. When requested by a TMT member, the Corps will arrange for a follow-up emergency TMT conference call with at least the persons from TMT initially contacted and if appropriate, all other TMT representatives of the Federal agencies, state, and Tribal sovereigns. The purpose of the call is: 1) to review status of the emergency, 2) to insure that all requirements for declaration of the emergency by the Corps, Reclamation, and BPA have been met and that all alternatives for offsetting adverse impacts of the emergency have been considered, and 3) to review the use of priority action lists.

5. It is incumbent upon the agency that calls the emergency or initiates action to remedy an emergency to issue notification to the regional representatives when the emergency situation is passed. In general, system operation will revert to normal conditions or as agreed upon at the most recent TMT forum when the emergency is declared over. The agency that calls the emergency will submit a written report detailing the incident and response at the next TMT meeting following the event.

6. The Federal agencies will provide an opportunity for representatives of the region's affected parties to review the course of events for the emergency and to suggest refinements to these protocols or to the specific action steps employed. These issues will be discussed at the next TMT meeting following the event.

7. The following flowchart illustrates the emergency response protocol described above:



F. Offsetting Adverse Effects of Emergency and Response Actions:

1. In the event that emergency conditions or the immediate response to an emergency situation results in an operation that causes adverse effects to fish and wildlife, the TMT will assess the magnitude of the adverse effect and provide information on measures available to offset it. Alternative operations to offset adverse effects in-place, in-kind in a timely manner shall receive the highest priority. The members of the Regional Forum agree to cooperate in the development of this information for consideration through the TMT process.

2. If the operation that was affected is a requirement of a Biological Opinion, then the appropriate agency (National Marine Fisheries Service (NMFS) or Fish and Wildlife Service (USFWS)) will use the information on the magnitude of the adverse effects to determine whether the modified operation is inconsistent with the relevant Biological Opinion(s). If the modified operation differs significantly from the conditions in the Biological Opinion(s) then NMFS or USFWS may recommend offsetting measures to conclude that the action satisfies Endangered Species Act requirements.

3. An agency deciding not to provide offsets, or offsetting actions are different from those recommended through the TMT process, will provide a written explanation for the record stating the decision and the basis for the decision.

4. NMFS and/or USFWS may make a determination that re-initiation of consultation is necessary.

5. Nothing in this section prevents a sovereign from independently pursuing remedies under applicable Federal, state or Tribal law.

Appendices

1. Spill Priority List

   [Not included here - it is developed for each operating year.]

2. Generation Emergency Action Plan

   This plan presents in a priority order groups of actions that would be invoked in the event of a generation emergency. Depending in the degree of the emergency, actions within each group will be selected to provide the magnitude of system benefit needed to recover from the emergency. In other words, if a large increase in generating capacity is needed, then the action that provides this increase will most likely be taken first within the group of actions.

Group 1 Actions (first taken):

- Return all units to service by canceling or postponing scheduled outages
- Put into service all possible generators (e.g., Grand Coulee pump-generators)
- Increase flows at specific projects to meet peak generation need
- Buy energy/capacity at market prices
- Exceed daily draft limits

Group 2 Actions:

- Operate projects outside of minimum operating pool ranges
- Adjust flows outside of planned targets or as preset by TMT
- Restrict intertie capacity reducing import or export
- Violate flood control or other first priority non-power requirement
- Buy energy/capacity at any price

Group 3 Actions:

- Request a tailwater violation at BON
- Reduce spill at BON to 50 kcfs while maintaining B2 corner collector operation
- Increase generation at MCN to operate outside 1% up to 14 kcfs per turbine unit
- Reduce spill at LWG to 19 kcfs (RSW + 11-12 kcfs of training spill)
- Reduce spill at IHR to RSW operation (approximately 19 kcfs)
- Reduce spill at LGS to 20 kcfs
- Reduce spill at LWG to 9 kcfs (RSW + 2-3 kcfs of training spill)
- Reduce spill at LWG to 0
- Reduce spill at LGS to 0
- Reduce spill at LMN to 0
- Reduce spill at John Day to 30%
- Reduce spill at MCN to 20% of flow
- Reduce spill at BON to 0
- Recuce spill at IHR to 0
- Reduce spill at MCN to 0
- Reduce spill at JDA to 0
- Reduce spill at TDA to 30% while maintaining sluiceway operation