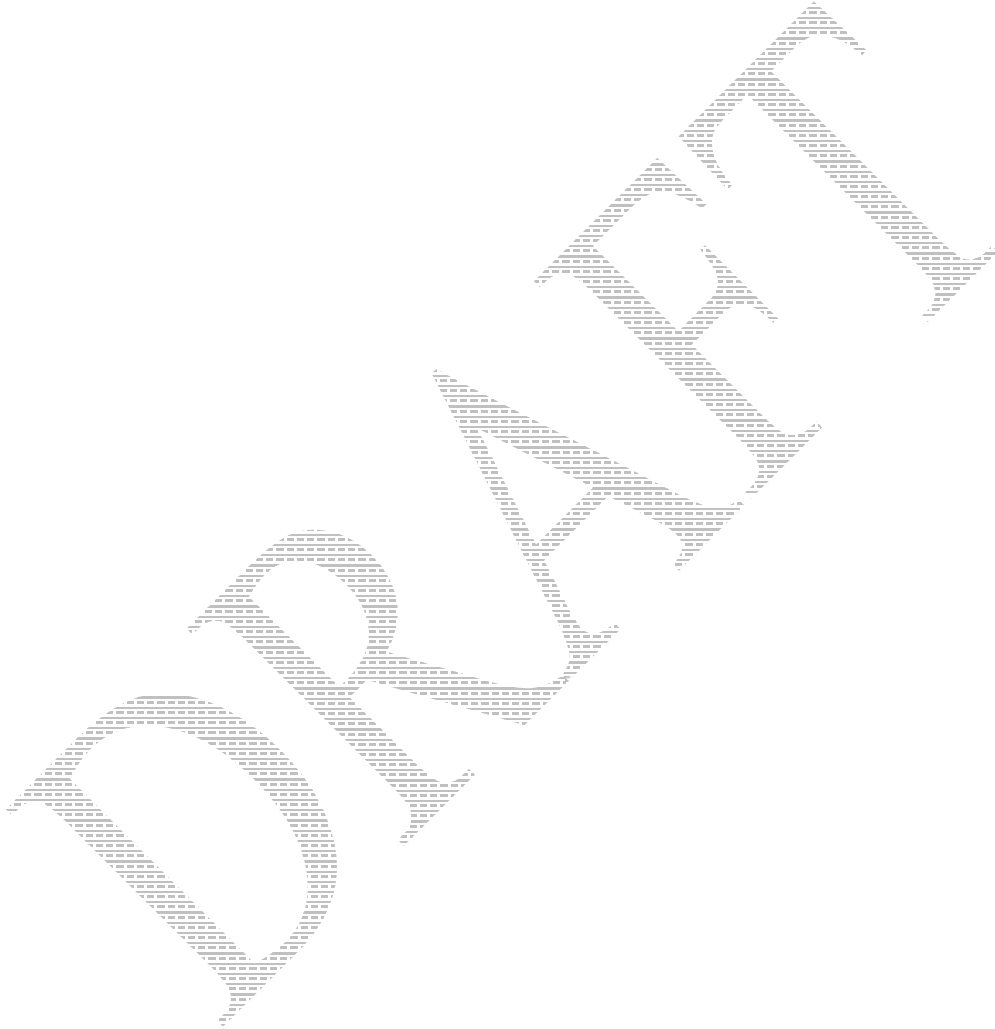


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APPENDIX F
STANDING INSTRUCTIONS
TO PROJECT OPERATOR



1 APPENDIX F

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5 STANDING INSTRUCTIONS TO PROJECT OPERATOR

6

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1 **F-01. References.** The following Operation and Maintenance (O&M) Manuals should
2 be consulted for specific guidance on structure operations and maintenance. This list will
3 be updated upon the completion of the O&M Manuals as construction of project features
4 is completed.

5
6 C&SF Project O&M Manual
7

8 **F-02. General.** The Kissimmee River and Lake Istokpoga basins are an integrated
9 system of storage capabilities and structure outlet capacities. The spillway structures are
10 operated according to the regulation schedules. The regulation schedule essentially
11 represents the seasonal and monthly limits of storage which guides the regulation of the
12 project for the planned purposes. The regulation schedules vary from high stages in the
13 late fall and winter to low stages at the beginning of the wet season. The water
14 management areas are drawn down in the spring to provide flood control storage and for
15 fish and wildlife enhancement. The minimum levels are set to provide sufficient flood
16 control storage. The amount of seasonal fluctuation was derived by determining the
17 effect of various water levels on the flood control, low water regulation, groundwater,
18 fish and wildlife, and recreation. The maximum levels are governed by the level of
19 minimum allowable flood damages and maximum level desirable for fish and wildlife.
20 Runoff during the wet season is stored for use in the dry season. The regulation schedules
21 are designed to take into account these varying, and often, conflicting purposes.

22
23 **F-03. Possible Flow Conditions.** The project features in the Kissimmee River and Lake
24 Istokpoga basins are designed to provide flood control for up to 30-percent of the SPF
25 level without exceeding damaging levels. Spillways in the Kissimmee River and Lake
26 Istokpoga basins can have four possible flow regimes resulting from the effects of the
27 spillway gates and tailwater effects. The flow regimes are:

28
29 a. Free Uncontrolled Flow. The spillway gates are fully opened and the discharge
30 is unaffected by the tailwater stage.

31
32 b. Submerged Uncontrolled Flow. The spillway gates are fully opened and the
33 discharge is reduced by tailwater conditions.

34
35 c. Free Controlled Flow. The spillway gates are partially opened and discharge is
36 unaffected by the tailwater stage.

37
38 d. Submerged Controlled Flow. The spillway gates are partially open and the
39 discharge is reduced by the tailwater conditions.

40
41 The spillway discharge rating curves that are being used must be applicable to the
42 particular flow regime encountered. The spillway gates should be opened and closed
43 gradually to provide an even transition to the new flow regime and to minimize the
44 hydraulic effects downstream. The tailwater stage should be allowed to build up before
45 the next gate opening operation takes place. Spillway gate openings should be checked
46 to insure that the gate opening operations are non-damaging to the spillway. The gate

1 openings should retain the hydraulic jump within the stilling basin and provide safe
2 velocities over the riprap. These MAGO curves must not be exceeded in the "Apron
3 Control" range to insure the safety of the structure. For large floods the MAGO curves
4 may be exceeded in the "Riprap Control" range, however some riprap damage will likely
5 occur.

6
7 For spillway structures with multiple gates, the spillway gates should be operated at the
8 same gate opening. As a practical consideration the main spillway gates should not be
9 adjusted such that the gate opening differs by more than one foot. Violation of this
10 precaution could result in erosive action due to excessive velocities, turbulence, and
11 return flow. The stilling basin reduces the kinetic energy of the flow entering the
12 downstream channel. The stilling basin and downstream riprap are intended to prevent
13 scour downstream of the spillway from undermining or otherwise threatening the
14 integrity of the structure.

15
16 **F-04. MAGO Curves.** The purpose of these MAGO curves are to prevent excessive
17 discharges with low tailwater conditions. They show the allowable gate openings for
18 specific headwater and tailwater elevations to alert the operator that there may be damage
19 downstream of the structure if the gate openings shown on the curve are exceeded. The
20 gate openings limits are based on either hydraulic jump conditions, excessive velocities at
21 the end of the riprap, or excessive velocities over the end sill. If the tailwater is lower
22 than the conjugate depth of the hydraulic jump, the jump will sweep out of the stilling
23 basin and dissipate its energy over the riprap with the possibility of undermining the
24 endsill and causing scour and erosion downstream. A low tailwater with high discharges
25 could create high velocities over the end sill, and can create erosion along the canal banks
26 and channel bottom and may disturb the riprap. The most critical condition for a
27 particular concurrent headwater, tailwater and discharge is selected for the control at the
28 structure. The controlling condition varies with each structure depending on the required
29 functions at the structure, the capability of the structure, or the characteristic of the
30 downstream channel.

31
32 These MAGOs should not be exceeded during normal operations of the structure. During
33 extreme flood conditions it might become necessary to exceed the values on the curve to
34 avoid overtopping or washing out the tieback levees or exceeding the maximum
35 allowable head differential for the structure. In these dangerous situations the gates
36 should be opened as required to lower the headwater regardless of the limits established
37 on the maximum gate opening curves.

38
39 **F-05. Normal Operating Conditions.** During normal conditions the project structures
40 shall be operated in accordance with the approved Water Control Plan (contained herein
41 as Chapter VII) and in accordance with the structure design criteria as described in
42 Appendix A. Regulation schedules contained in the manual shall be followed. Deviation
43 from the normal regulation schedule will be permitted only under emergency conditions.
44 Notification shall be as outlined in the Water Control Plan (Chapter VII).

1 **F-06. Communication Outages.** Upon emergency situations where communication with
2 the Project Operator is interrupted, the Project Operator shall take any action deemed
3 necessary to prevent the loss of life or property. Such actions shall be documented in
4 writing and shall be forwarded to the CESAJ as soon as practicable. Upon the
5 resumption of normal communications, the Project Operator shall report the sequence of
6 events which lead to unplanned releases and receive additional instructions from higher
7 authority.
8

9 **F-07. Deviation from Normal Regulation.**

10
11 a. Emergencies. Some emergencies can be expected. The Project Operator shall
12 take the necessary action under emergency conditions immediately unless such action
13 would create equal or worse conditions. The CESAJ will be informed as soon as
14 practicable. A written confirmation showing the deviations and conditions shall be
15 furnished to the CESAJ after the incident. CESAJ will report these deviations to the
16 SADO office.
17

18 b. Unplanned Minor Deviations. There are unplanned instances that create a
19 temporary need for minor deviations from the normal regulation, although they are not
20 considered emergencies. Requests for changes of release rates are generally for a few
21 hours to a few days. Each request will be analyzed on its own merits. Approval for these
22 minor deviations will normally be obtained from the Chief Water Management and
23 Meteorology Section (or his designee), CESAJ by telephone, who in turn will seek
24 approval from SAD. A written confirmation showing the deviation and conditions will
25 be furnished to SAD by CESAJ after the deviation is complete.
26

27 c. Planned Deviations. The Project Operator will receive specific instructions on
28 planned deviations. These instructions will be followed in lieu of the normal regulation
29 schedule. Upon completion of the planned deviation, the normal regulation schedule
30 shall resume.
31
32