Appendix 2

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
NORTHWEST MOUNTAIN REGION
AIRPORT IMPROVEMENT PROGRAM

MODIFICATION OF AIRPORT DESIGN STANDARDS

BACKGROUND

1. AIRPORT:	2. LOCATION(CITY,STATE):	3. LOC ID:

4. EFFECTED RUNWAY/TAXIWAY:	5. APPROACH (EACH RUNWAY): ☐ PIR ☐ NPI ☐ VISUAL	6. AIRPORT REF. CODE (ARC):

7. DESIGN AIRCRAFT (EACH RUNWAY/TAXIWAY):

MODIFICATION OF STANDARDS

8. TITLE OF STANDARD BEING MODIFIED (CITE REFERENCE DOCUMENT):
Advisory Circular 150/5370-10G, Standards for Specifying Construction of Airports, Item L-108 Underground Power Cable for Airports, Section 108-2.2 Cable.

9. STANDARD/REQUIREMENT:
AC 150/5370-10G, Item L-108, Section 108-2.2: The first sentence of the second paragraph of this section reads "Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type THWN-2, 75° C.

10. PROPOSED:
Replace the sentence above with the following: "Wire for electrical circuits up to 600 volts shall comply with Specification L-824 and/or Federal Specification J-C-30 and shall be type XHHW, 75° C.

11. EXPLAIN WHY STANDARD CANNOT BE MET (FAA ORDER 5300.1E):
This modification to standard is requested to prevent premature failure of wire insulation due to high ground water within the airfield environment at Port of Portland Airports. The Port has historically had a high number of insulation failures with THWN insulated wire that were within electrical vaults and underwater. Type THWN insulation, as specified by the FAA, has a thinner coating and a different type of material than XHHW type insulation. The thinner insulation on THWN wire makes it more susceptible to current leakage and insulation breakdown.

12. DISCUSS VIABLE ALTERNATIVES (FAA ORDER 5300.1E):
This modification to standard is requested to allow the use of XHHW type insulation on wire rated 600V or less to prevent insulation failure due to water intrusion. Use of the specified THWN type insulated wire would be cost prohibitive to the Port for complete replacement and down time of airfield lighting circuits due to insulation failure.

13. STATE WHY MODIFICATION WOULD PROVIDE ACCEPTABLE LEVEL OF SAFETY, ECONOMY, DURABILITY, AND WORKMANSHIP (FAA ORDER 5300.1E):
This modification to standard will allow 600V cable to have insulation type XHHW that will conform to quality standards for safety, durability and to provide greater level of protection for airfield lighting conductors immersed in water at Port of Portland Airports. Wire insulation type XHHW has historically been proven to be long lasting and well suited to withstand water intrusion.

Appendix 2

ATTACH ADDITIONAL SHEETS AS NECESSARY – INCLUDE SKETCH/PLAN

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
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AIRPORT IMPROVEMENT PROGRAM

MODIFICATION OF AIRPORT DESIGN STANDARDS

MODIFICATION:	LOCATION:	PAGE 2 OF 2
14. SIGNATURE OF ORIGINATOR:	15. ORIGINATOR'S ORGANIZATION:	16. TELEPHONE:
17. DATE OF LATEST FAA SIGNED ALP:		
18. ADO RECOMMENDATION:	19. SIGNATURE:	20. DATE:
21. FAA DIVISIONAL REVIEW (AT, AF, FS):		

ROUTING SYMBOL	SIGNATURE	DATE	CONCUR	NON-CONCUR

COMMENTS:
22. AIRPORTS' DIVISION FINAL ACTION:

☐ UNCONDITIONAL APPROVAL	☐ CONDITIONAL APPROVAL	☐ DISAPPROVAL

DATE:	SIGNATURE:	TITLE:

Appendix 2

CONDITIONS OF APPROVAL:

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
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MODIFICATION OF AIRPORT DESIGN STANDARDS

ITEMS 1-17 ARE TO BE COMPLETED BY THE AIRPORT SPONSOR(ORIGINATOR). ALL OTHER ITEMS WILL BE COMPLETED BY THE FAA.

THE COMPLETED FORM WILL BE TRANSMITTED BY THE ORIGINATOR TO THE APPLICABLE ADO/AFO. THE ADO/AFO WILL TRANSMIT THE FINAL FAA DETERMINATION TO THE ORIGINATOR.

MODIFICATION TO AIRPORT DESIGN STANDARDS REQUESTS SHOULD INCLUDE SKETCHES OR DRAWINGS WHICH CLEARLY ILLUSTRATE THE NONSTANDARD CONDITION.

ITEMS

1. LEGAL NAME OF AIRPORT.

2. ASSOCIATED CITY.

3. AIRPORT LOCATION IDENTIFIER (SEE APPROACH PLATES/AIRPORT FACILITY DIRECTORY).

4. IDENTIFY THE RUNWAY(S), TAXIWAY(S) OR OTHER FACILITIES EFFECTED BY THE PROPOSED MODIFICATION TO STANDARDS REQUEST.

5. IDENTIFY THE MOST CRITICAL APPROACH FOR EACH RUNWAY IDENTIFIED IN #4.

6. AIRPORT REFERENCE CODE - SEE PARAGRAPH 2, PAGE 1 AC 150/5300-13(CHANGE 4) - I.E. C-II, B-II, A-I (SMALL).

7. NOTE THE DESIGN AIRCRAFT (ARC OR SPECIFIC AIRCRAFT) FOR EACH FACILITY IDENTIFIED IN #4. A DESIGN AIRCRAFT MUST MAKE REGULAR USE OF THE FACILITY. NORMALLY, FAA CONSIDERS REGULAR USE TO BE 500 OR MORE ANNUAL INTINERANT OPERATIONS.

IF THE AIRPORT SERVES A WHOLE FAMILY OF AIRCRAFT IN A PARTICULAR GROUP, THE ARC (I.E. B-II) SHOULD BE SPECIFIED. IF,HOWEVER, THE AIRPORT IS USED BY ONLY 1 OR 2 OF A FAMILY OF AIRCRAFT (IX- BEECH KING AIR C90), THE MOST DEMANDING (APPROACH SPEED, WINGSPAN) AIRCRAFT SHOULD BE SPECIFIED.

8. IDENTIFY THE SPECIFIC NAME OF THE STANDARD THAT IS PROPOSED TO BE MODIFIED FOR THE SUBJECT LOCAL CONDITION.
9. DESCRIBE (WORDS AND NUMBERS) THE DIMENSIONS AND REQUIREMENTS OF THE STANDARD AS PROVIDED IN AC 150/5300-13.

10. STATE THE PROPOSED MODIFICATION TO THE STANDARD.

11. DISCUSS THE LOCAL CONDITIONS THAT MAKE IT IMPRACTICAL OR IMPOSSIBLE TO MEET THE STANDARD.

12. IDENTIFY ALTERNATIVES TO THE SUBJECT PROPOSED MODIFICATION, AND SHOW WHY THESE ALTERNATIVES ARE NOT VIABLE.

13. DISCUSS HOW THE PROPOSED MODIFICATION WOULD IMPACT AIRPORT SAFETY AND EXPLAIN WHY AN ACCEPTABLE LEVEL OF SAFETY, ECONOMY, DURABILITY, AND WORKMANSHIP WOULD STILL EXIST.

Appendix 2

14. TYPED NAME AND SIGINATURE OF AIRPORT AUTHORITY REPRESELNTATIVE.
15. SELF-EXPLANATORY.
16. SELF-EXPLANATORY.
17. SELF-EXPLANATORY.
18. TO BE COMPLETED BY FAA