Subject: Comments on Section 14
From: Van Snyder

1 Edits

Edits refer to 01-007r3. Page and line numbers are displayed in the margin. Absent other instructions, a page and line number or line number range implies all of the indicated text is to be replaced by immediately following text, while a page and line number followed by + (-) indicates that immediately following text is to be inserted after (before) the indicated line. Remarks are noted in the margin, or appear between [and] in the text.

[Editor: "When" ⇒ "If".]	333:8
[Since the types are not private, it is possible to declare objects of the type, which can therefore become undefined. Therefore, "possible" isn't the appropriate term. Editor: "possible" ⇒ "valid" thrice.]	334:13, 18, 28
[Editor: Delete "IEEE_SUPPORT_DIVIDE" because it doesn't belong in this paragraph – or indeed in this subclause.]	337:24
[Editor: Delete the waffle about IEEE_SUPPORT_STANDARD because there's nothing more here than at [338:30-31].]	338:4-5
[ISO doesn't like the term "section". Re-write to be like subclause 13.5.]	338:7-8
For all of the procedures defined in the modules, the arguments shown are the names that shall be used for argument keywords when using the keyword form for actual arguments.	
[Editor: Would look better if laid out like 13.5.1-17]	14.8.1-5
[Editor: Insert "the" before "processor" twice.]	338:22,25
[Editor: Insert "the" before "processor" twice.]	338:27,30
[Editor: "Whether" ⇒ "Determine if" for consistency with other summaries.]	338:39
[Editor: Delete the extra blank after "environment".]	339:24
[ISO doesn't like the term "section". Editor: "In ... The" ⇒ "In the detailed descriptions below,".]	339:33
[Editor: Delete "ever" because it's not needed.]	340:10
[Editor: "and" ⇒ "or".]	341:21
[Editor: Insert "validly" before "be".]	342:24
[Editor: "Whether" ⇒ "Determine if" twice for consistency with summaries.]	342:26,38
[Editor: "and" ⇒ "or" twice.]	342:34
[Editor: "Whether" ⇒ "Determine if" twice for consistency with summaries.]	343:6,17
[Editor: "and" ⇒ "or" twice.]	343:13,25
[Editor: Delete second "Result value."]	343:36
[Hyperbolic. Editor: "without ... being" ⇒ "and no exception is".]	344:9
[Nearest to what? Editor: "nearest ... X" ⇒ "representable number having a magnitude nearest to $\|2^I\|$ and the same sign as X".]	345:14-15

[Editor: Indent the description.]	346:12
[Editor: Single space the paragraph.]	346:23-24
[My dictionary has "declare earnestly" as the first definition of "assure" and "to make certain that a future event occurs" as the third one. "Ensure" has the desired meaning listed first. Editor: "assure" ⇒ "ensure".]	347:15
[All of the other IEEE_SUPPORT_... routines allow array arguments. Indeed, the routines that allow array arguments X stipulate that they aren't allowed to be executed unless IEEE_SUPPORT_DATATYPE(X) is true. So prohibiting array arguments here prohibits them everywhere that they appear to be allowed.]	347:19
Argument. X (optional) shall be of type real. May be scalar or array valued.	
[Run-on sentence. Editor: "and" ⇒ "; they".]	348:4
[Simplification: "rounding ... reals" ⇒ "IEEE rounding mode".]	350:4-5
[Editor: Delete second "of".]	351:25

2 "Restriction" paragraphs are unnecessarily wordy

Restriction. IEEE_CLASS(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	340:19-20
Restriction. IEEE_COPY_SIGN(X,Y) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) or IEEE_SUPPORT_DATATYPE(Y) has the value false.	340:19-20
Restriction. IEEE_IS_FINITE(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	342:29-30
Restriction. IEEE_IS_NAN(X) shall not be invoked if IEEE_SUPPORT_NAN(X) has the value false.	342:41-42
Restriction. IEEE_IS_NEGATIVE(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	343:9-10
Restriction. IEEE_IS_NORMAL(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	343:21-22
Restriction. IEEE_IS_LOGB(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	343:33-34
Restriction. IEEE_NEXT_AFTER(X,Y) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) or IEEE_SUPPORT_DATATYPE(Y) has the value false.	344:5-6
Restriction. IEEE_REM(X,Y) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) or IEEE_SUPPORT_DATATYPE(Y) has the value false.	344:20-21
Restriction. IEEE_RINT(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	344:33-34
Restriction. IEEE_SET_HALTING_MODE(FLAG) shall not be invoked if IEEE_SUPPORT_HALTING(FLAG) has the value false.	346:18-19
Restriction. IEEE_SET_ROUNDING_MODE(ROUND_VALUE) shall not be invoked unless IEEE_SUPPORT_ROUNDING_MODE(ROUND_VALUE,X) is true for some X such that IEEE_SUPPORT_DATATYPE(X) is true.	346:30-32

Restriction. IEEE_SUPPORT_DENORMAL(X) shall not be invoked if IEEE_SUPPORT_-DATATYPE(X) has the value false.	347:33-34
Restriction. IEEE_SUPPORT_DIVIDE(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	348:14-15
Restriction. IEEE_SUPPORT_INF(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	349:11-12
Restriction. IEEE_SUPPORT_IO(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	349:24-25
Restriction. IEEE_SUPPORT_NAN(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	349:37-38
Restriction. IEEE_SUPPORT_ROUNDING(ROUND_VALUE,X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	350:10-11
Restriction. IEEE_SUPPORT_SQRT(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	350:24-25
Restriction. IEEE_UNORDERED(X,Y) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) or IEEE_SUPPORT_DATATYPE(Y) has the value false.	351:17-18
Restriction. IEEE_VALUE(X) shall not be invoked if IEEE_SUPPORT_DATATYPE(X) has the value false.	351:37-38

3 Don't know what to do

To what does "this" refer?	337:25
If this is the same as NEAREST say so.	339:1-2
If this is the same as SCALE say so.	339:6
Not consistent with 7.1.4.2. Is the inconsistency intentional?	344:22-23
Does the rounding mode affect the definition of "nearest"?	345:14-15
This is inconsistent with 13.7.102. Is the inconsistency intentional?	345:30-34
What does "except that underflowed values flush to zero instead of being denormal" mean? Does it mean that they're allowed to, or required to, or something else?	347:27-28
What if the processor returns a denormalized number for some non-IEEE kind?	348:7-8
What is the purpose of "Here" here?	349:3
What is the purpose of "Here" here?	350:15