**DFNgen 2.0 Flowchart**

**DFNgen Overview**

Note:

There are separate flowcharts for:

* *Insert Fracture and Check Intersections*
* *FRAM*

Start

Initialize Variables

Read In Input File

Create User Defined Fracture

Yes

User Defined Fract.

Insert Fract. and Check Intersections

No

More User Def. Fractures

Stochastic Fractures

Yes

No

No

Generate Random Fracture From Defined Families

Insert Fract. and Check Intersections

Yes

Fracture Rejected

Re-translate Poly

No

Yes

No

Update Fracture Cluster Data

Save Fracture

Save New Intersections and Triple Intersection Points

Update Intersected Fractures’ Intersections and Triple Intersection Points

Stop Condition

P32

NPoly

P32 Targets Complete

Number of Fractures Reached

No

No

Yes

Yes

Remove Isolated Fractures

Assign Apertures and Permeabilities

Dump Output Files

End

**DFNgen 2.0 Flowchart**

**Insert and Check Intersections**

Insert Fracture Into Domain

Start

No

No

No

Yes

Yes

END and REJECT

FRAM Checks Passed

FRAM

No

END and Accept

Yes

More Fracts

Yes

Intersections

Exist

Search for Intersection

Fractures B.B Intersect

No

Check Bounding Box Against Prev. Fracture

Create Bounding Box

Yes

No

END and REJECT

Fract. Outside of Domain

Truncate Fracture Against Domain

Fracture Completely Inside Domain

**DFNgen 2.0 Flowchart**

**FRAM**

Start

Yes

No

No

Yes

Yes

No

Yes

Yes

No

No

No

No

No

Yes

Yes

Yes

Reject

Accept

Fract. Intersect On Same Plane

Dist. to Prev. Int. Less Than *h*

Triple Intersections Exist

Angles Too Shallow

Close to Other Triple Pts/Endpts

Shortened by More Than 10%

Shorten Intersection

Intersection Too Close to Fract. Edge

Intersection length < *h*